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ENGINEERING AND ENVIRONMENTAL STUDY OF DDT
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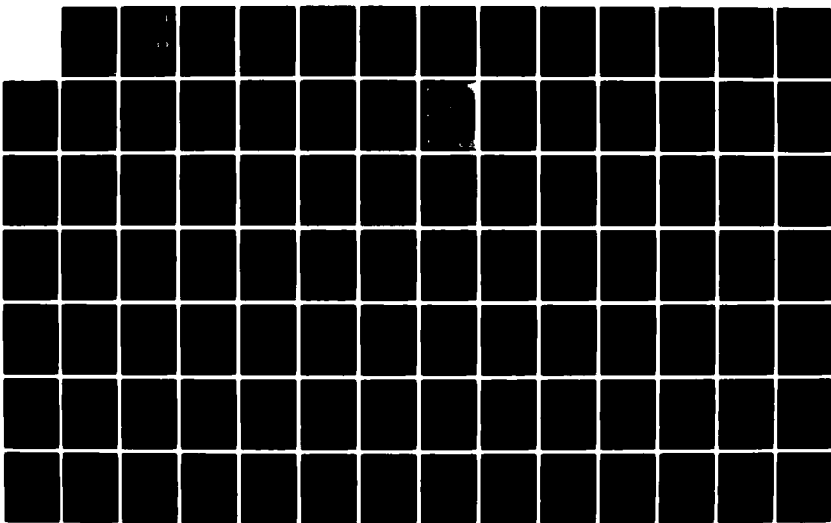
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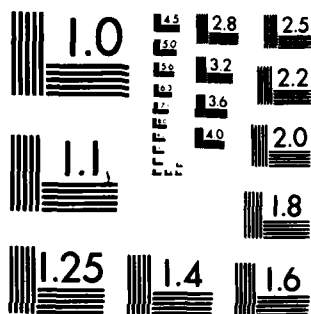
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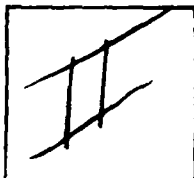


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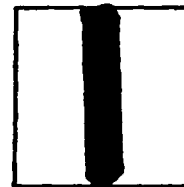
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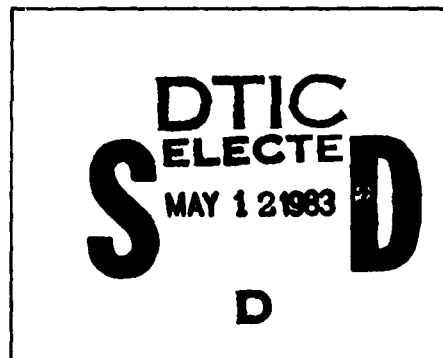
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FINAL CONTRACT REPORT
ENGINEERING AND ENVIRONMENTAL STUDY
OF DDT CONTAMINATION
OF HUNTSVILLE SPRING BRANCH, INDIAN CREEK,
AND ADJACENT LANDS AND WATERS,
WHEELER RESERVOIR, ALABAMA

NOVEMBER 1980

VOLUME 3 OF 3
APPENDICES IV-VI

PREPARED FOR:
UNITED STATES ARMY CORPS OF ENGINEERS
MOBILE DISTRICT
CONTRACT NO. DACW01-79-C-0224

SUBMITTED BY:
WATER AND AIR RESEARCH, INC.
GAINESVILLE, FLORIDA 32602

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REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) DDT contamination in northeast Alabama near Triana, in the Tennessee River system including Wilson, Wheeler, and Guntersville Reservoirs has occurred because wastes containing DDT residues (DDTR) have migrated to receiving streams. In the area DDTR levels in fish exceed the 5 ppm limit set by the FDA for edible portions of fish. Evidence of human DDT contamination has been found in persons routinely consuming the fish. In the spring of 1979 an engineering and environmental study began to determine whether or not corrective action is required, and if so, the technical		

approach to such corrective action. The nature and extent of contamination have been defined, and engineering, economic, and environmental feasibility of alternative solutions have been evaluated. Study included extensive field and laboratory work. Data were gathered on fish, sediment, water, macroinvertebrates, plankton, aquatic plants, mammals, birds, and reptiles in the area. Additionally, efforts were made to secure all prior existing data.

Analysis of data provided quantification of pollutant transport by biological (food chain) and physical (mostly hydrologic) processes. Data collected during the current study have been compared to historical data to determine extent of sediment contamination and rate of movement downstream. Groundwater transport has been evaluated.

Principal study findings include:

1. An extensive amount of DDTR exists in reservoir sediments.
2. DDTR is being moved slowly downstream.
3. Fish, particularly channel catfish, are contaminated with DDTR throughout Wheeler Reservoir.
4. Contamination of aquatic organisms, results from low levels of DDTR that now exist in water and/or sediment.
5. Contamination of aquatic organisms also appears to be caused by migration of contaminated fish to relatively uncontaminated areas.

Remedial alternatives for mitigation were compared to the Natural Restoration Alternative, which is to allow clean-up by natural processes. Alternatives are based on various means of isolating DDTR from the environment and include: (1) dredging or removing the contaminated sediments and placing them in a secure landfill, (2) covering the contaminated sediments in place, and/or (3) bypassing flow around the contaminated area. For the six final alternatives, details regarding engineering and economic feasibilities and environmental and regulatory impacts are presented. Time required for remedial results is also discussed.

FINAL CONTRACT REPORT

**ENGINEERING AND ENVIRONMENTAL STUDY
OF DDT CONTAMINATION
OF HUNTSVILLE SPRING BRANCH, INDIAN CREEK,
AND ADJACENT LANDS AND WATERS,
WHEELER RESERVOIR, ALABAMA**

NOVEMBER 1980

**VOLUME 3 OF 3
APPENDICES IV-VI**

**PREPARED FOR:
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**SUBMITTED BY:
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GAINESVILLE, FLORIDA 32602**

SUMMARY DOCUMENT

TABLE OF CONTENTS

	<u>Page</u>
1.0 <u>INTRODUCTION</u>	1
2.0 <u>HISTORICAL DEVELOPMENT OF PROBLEM</u>	1
2.1 <u>MANUFACTURING PLANT HISTORY</u>	1
2.2 <u>WASTE TREATMENT STUDY</u>	6
2.3 <u>RESTORATION WORK ON REDSTONE ARSENAL</u>	6
2.4 <u>HISTORICAL ENVIRONMENTAL CONTAMINATION</u>	6
2.4.1 <u>Water and Sediment</u>	6
2.4.2 <u>Fish and Wildlife</u>	7
3.0 <u>PRESENT SITUATION</u>	7
3.1 <u>DISTRIBUTION OF DDTR</u>	7
3.1.1 <u>Sediments</u>	7
3.1.2 <u>Water</u>	9
3.1.3 <u>Biota</u>	9
3.1.4 <u>Overall Distribution of DDTR</u>	12
3.2 <u>CURRENT CONTAMINATION LEVELS</u>	12
3.2.1 <u>Plankton</u>	12
3.2.2 <u>Macroinvertebrates</u>	12
3.2.3 <u>Fish</u>	13
3.2.4 <u>Birds</u>	17
3.2.5 <u>Mammals</u>	17
3.2.6 <u>Reptiles</u>	17
3.2.7 <u>Vascular Plants</u>	18
3.3 <u>ENVIRONMENTAL TRANSPORT OF DDTR</u>	18
3.3.1 <u>Physical Transport of DDTR</u>	18
3.3.2 <u>Biological Transport of DDTR</u>	19
4.0 <u>ALTERNATIVES FOR MITIGATION OF DDT CONTAMINATION IN HUNTSVILLE SPRING BRANCH AND INDIAN CREEK</u>	19
4.1 <u>INTRODUCTION</u>	19
4.2 <u>CHARACTERISTICS OF DDT-SEDIMENT ASSOCIATION</u>	20
4.2.1 <u>Introduction</u>	20
4.2.2 <u>DDT Mobility in Sediments</u>	20
4.2.3 <u>Characteristics of Sediments in the Study Area</u>	21
4.2.4 <u>Summary and Discussion</u>	21
4.3 <u>DREDGING AND DISPOSAL</u>	22
4.3.1 <u>Introduction</u>	22
4.3.2 <u>Temporary Dredged Material Disposal Area (TMDA)</u>	26
4.3.3 <u>Dredging HSB and IC Sediments</u>	26
4.3.4 <u>Permanent Disposal of Dredged Material</u>	28
4.3.5 <u>Monitoring Program</u>	29
4.3.6 <u>Predicted Environmental Impacts of Dredging and Disposal</u>	29
4.4 <u>OUT OF BASIN DIVERSION OF HSB</u>	30
4.4.1 <u>Introduction</u>	30
4.4.2 <u>Diversion Alignment</u>	30
4.4.3 <u>Design Criteria</u>	30
4.4.4 <u>Construction</u>	32
4.4.5 <u>Predicted Environmental Impacts of Out-of-Basin Diversion</u>	32

SUMMARY DOCUMENT

TABLE OF CONTENTS (Continued)

	<u>Page</u>
4.5 WITHIN-BASIN DIVERSION OF HSB	33
4.5.1 <u>Introduction</u>	33
4.5.2 <u>Diversion Alignment</u>	33
4.5.3 <u>Design Criteria</u>	33
4.5.4 <u>Construction</u>	33
4.5.5 <u>Predicted Environmental Impacts of Within-Basin Diversion</u>	35
4.6 IN-PLACE CONTAINMENT/STABILIZATION OF CONTAMINATED SEDIMENTS	35
4.6.1 <u>Introduction</u>	35
4.6.2 <u>Containment with Out-of-Basin Diversion in HSB</u>	35
4.6.3 <u>Containment With Within Basin Diversion of HSB</u>	37
4.6.4 <u>Predicted Environmental Impacts of Containment/ Stabilization of Contaminated Sediments</u>	38
4.7 AREA-WIDE ENVIRONMENTAL MONITORING	38
4.8 LEGISLATION, REGULATIONS, AND PERMITTING	38
4.9 PROPOSED ALTERNATIVES	39
4.9.1 <u>Alternative A: Natural Restoration</u>	39
4.9.2 <u>Alternative B: Dredging and Disposal</u>	40
4.9.3 <u>Alternative C: Out-of-Basin Diversion and Removal of Contaminated Sediments</u>	43
4.9.4 <u>Alternative D: Out-of-Basin Diversion and Containment of Contaminated Sediments</u>	44
4.9.5 <u>Alternative E: Within-Basin Diversion and Removal of Contaminated Sediments</u>	46
4.9.6 <u>Alternative F: Within-Basin Diversion and Containment of Contaminated Sediments</u>	49
5.0 <u>PREDICTED EFFECTIVENESS OF MITIGATION ALTERNATIVES</u>	51

I. APPENDIX I: GENERAL INFORMATION ON DDT AND DDTR

TABLE OF CONTENTS

	<u>Page</u>
1.0 <u>INTRODUCTION</u>	I-1
2.0 <u>PHYSICAL AND CHEMICAL PROPERTIES OF DDT</u>	I-1
3.0 <u>BEHAVIOR OF DDT IN SOILS AND WATER</u>	I-1
3.1 <u>ADSORPTION TO SOIL</u>	I-1
3.2 <u>VERTICAL MOVEMENT IN SOILS</u>	I-1
3.3 <u>VOLATILIZATION FROM SOIL, WATER AND OTHER SURFACES</u>	I-5
3.4 <u>PERSISTENCE IN SOIL</u>	I-7
3.5 <u>WATER SOLUBILITY</u>	I-7
4.0 <u>DDT DEGRADATION IN THE ENVIRONMENT</u>	I-7
4.1 <u>DEGRADATION IN SOILS UNDER AEROBIC CONDITIONS</u>	I-12
4.2 <u>DEGRADATION IN SOILS UNDER ANAEROBIC CONDITIONS</u>	I-13
4.3 <u>DEGRADATION BY SEWAGE SLUDGE</u>	I-14
4.4 <u>DEGRADATION IN SEDIMENTS</u>	I-14
4.5 <u>DEGRADATION BY SPECIFIC MICROBIAL POPULATIONS</u>	I-15
4.6 <u>DEGRADATION BY FUNGI</u>	I-15
4.7 <u>DEGRADATION BY ALGAE</u>	I-15
4.8 <u>DEGRADATION BY A SOIL AMOEBA</u>	I-16
4.9 <u>DEGRADATION AS CATALYZED BY METALS</u>	I-16
5.0 <u>DDT TOXICITY</u>	I-17
5.1 <u>BIOCONCENTRATION</u>	I-17
5.2 <u>AQUATIC INVERTEBRATES</u>	I-45
5.3 <u>AQUATIC VERTEBRATES</u>	I-46
5.4 <u>BIRDS</u>	I-56
5.5 <u>MAMMALS</u>	I-59
5.6 <u>ALGAE AND FUNGI</u>	I-59
6.0 <u>EPA AMBIENT WATER QUALITY CRITERIA FOR DDT</u>	I-59
7.0 <u>FDA REGULATIONS REGARDING DDT IN FISH</u>	I-63

II.

SITE SPECIFIC INFORMATION AND ANALYSISTABLE OF CONTENTS

	<u>Page</u>
1.0 <u>A HISTORICAL REVIEW OF DDT MANUFACTURE AND SUBSEQUENT ENVIRONMENTAL IMPACT AT REDSTONE ARSENAL</u>	II-1
1.1 <u>MANUFACTURING PLANT HISTORY</u>	II-1
1.2 <u>PRIOR CONTROL EFFORTS</u>	II-1
1.3 <u>HISTORICAL CHRONOLOGY OF CONTAMINATION</u>	II-4
1.3.1 <u>Water Quality Surveys</u>	II-4
1.3.2 <u>DDT Levels in Aquatic Sediments</u>	II-5
1.3.3 <u>Fish and Wildlife</u>	II-13
2.0 <u>CURRENT ENVIRONMENTAL SETTING</u>	II-30
2.1 <u>DESCRIPTION OF THE NATURAL SYSTEMS</u>	II-30
2.1.1 <u>Tennessee River (Wheeler Reservoir)</u>	II-30
2.1.2 <u>Huntsville Spring Branch and Redstone Arsenal Area</u>	II-32
2.1.3 <u>Indian Creek</u>	II-38
2.1.4 <u>Unnamed Creek</u>	II-39
2.1.5 <u>Wheeler Reservoir</u>	II-40
2.1.6 <u>Species List</u>	II-40
2.1.7 <u>Caves</u>	II-40
2.2 <u>ENDANGERED, THREATENED, AND SPECIAL CONCERN BIOTA</u>	II-59
2.3 <u>GEOLOGY AND PHYSIOGRAPHY</u>	II-67
2.4 <u>HYDROLOGY</u>	II-67
2.4.1 <u>Surface Water Hydrology</u>	II-68
2.4.2 <u>Groundwater Hydrology</u>	II-68
2.5 <u>CULTURAL RESOURCES</u>	II-75
3.0 <u>DDTR DISTRIBUTION</u>	II-76
3.1 <u>DDTR IN SEDIMENTS</u>	II-76
3.1.1 <u>Indian Creek and Huntsville Spring Branch</u>	II-76
3.1.2 <u>Tennessee River and Tributaries</u>	II-107
3.2 <u>DISTRIBUTION OF DDTR IN WATER</u>	II-115
3.3 <u>BIOTA</u>	II-116
3.3.1 <u>Plankton</u>	II-116
3.3.2 <u>DDTR in Macroinvertebrates</u>	II-116
3.3.3 <u>Vertebrates (Except Fish)</u>	II-116
3.3.4 <u>DDTR in Fish</u>	II-117
3.4 <u>OVERALL DISTRIBUTION OF DDTR</u>	II-117
4.0 <u>ENVIRONMENTAL TRANSPORT OF DDTR</u>	II-118
4.1 <u>PHYSICAL TRANSPORT OF DDTR</u>	II-118
4.1.1 <u>Introduction</u>	II-118
4.1.2 <u>Methodology</u>	II-118
4.1.3 <u>Discussion</u>	II-122
4.1.4 <u>Conclusions</u>	II-147
4.2 <u>BIOLOGICAL TRANSPORT OF DDTR</u>	II-150
4.2.1 <u>Plankton</u>	II-150
4.2.2 <u>Macroinvertebrates</u>	II-151
4.2.3 <u>Vertebrates (Except Fish)</u>	II-151
4.2.4 <u>Fish</u>	II-161

II.

SITE SPECIFIC INFORMATION AND ANALYSISTABLE OF CONTENTS (Continued)

	<u>Page</u>
5.0 <u>CURRENT CONTAMINATION LEVELS IN BIOTA</u>	II-162
5.1 PLANKTON	II-162
5.2 MACROINVERTEBRATES	II-162
5.3 FISH	II-162
5.3.1 <u>Results of Surveys Made in 1979-80</u>	II-162
5.3.2 <u>Method of Contamination</u>	II-173
5.4 BIRDS	II-175
5.5 MAMMALS	II-178
5.6 OTHER VERTEBRATES	II-178
5.7 VASCULAR PLANTS	II-178

III. APPENDIX III: ALTERNATIVES FOR MITIGATION OF DDT CONTAMINATION IN HUNTSVILLE SPRING BRANCH AND INDIAN CREEK

TABLE OF CONTENTS

	<u>Page</u>
1.0 <u>INTRODUCTION</u>	III-1
2.0 <u>CHARACTERISTICS OF DDT-SEDIMENT ASSOCIATION</u>	III-2
2.1 <u>INTRODUCTION</u>	III-2
2.2 <u>LITERATURE REVIEW</u>	III-2
2.3 <u>CHARACTERISTICS OF SEDIMENTS IN THE STUDY AREA</u>	III-4
2.4 <u>SUMMARY AND DISCUSSION</u>	III-4
3.0 <u>DREDGING AND DISPOSAL</u>	III-5
3.1 <u>INTRODUCTION</u>	III-5
3.1.1 <u>Site Characteristics</u>	III-5
3.1.2 <u>Areal Distribution of DDTR</u>	III-7
3.1.3 <u>Approach for Implementation</u>	III-10
3.2 <u>SURVEY OF CURRENT DREDGING TECHNOLOGY</u>	III-12
3.2.1 <u>Introduction</u>	III-12
3.2.2 <u>Dredges Evaluated for Removing Channel Sediments in Huntsville Spring Branch and Indian Creek</u>	III-15
3.2.3 <u>Discussion</u>	III-18
3.3 <u>TEMPORARY DREDGED MATERIAL DISPOSAL AREA (TMDA)</u>	III-21
3.3.1 <u>Introduction</u>	III-21
3.3.2 <u>Selection Criteria and Site Evaluation</u>	III-22
3.3.3 <u>TMDA Design and Construction</u>	III-28
3.3.4 <u>TMDA Operation</u>	III-34
3.3.5 <u>Miscellaneous Considerations</u>	III-37
3.4 <u>DREDGING HUNTSVILLE SPRING BRANCH AND INDIAN CREEK SEDIMENTS</u>	III-37
3.4.1 <u>Overview</u>	III-37
3.4.2 <u>Access Roads</u>	III-38
3.4.3 <u>Snagging and Clearing Channel</u>	III-40
3.4.4 <u>Utilities Relocation</u>	III-40
3.4.5 <u>Channel Dredging</u>	III-40
3.4.6 <u>Overbank Removal</u>	III-43
3.4.7 <u>Turbidity Control</u>	III-44
3.4.8 <u>Work Scheduling</u>	III-45
3.5 <u>PERMANENT DISPOSAL OF DREDGED MATERIAL</u>	III-46
3.5.1 <u>Use of TMDA as a Permanent Landfill</u>	III-46
3.5.2 <u>Mine Disposal</u>	III-47
3.5.3 <u>Incineration</u>	III-50
3.5.4 <u>Off-Site Secure Landfill</u>	III-52
3.5.5 <u>Discussion</u>	III-52
3.6 <u>MONITORING PROGRAM</u>	III-54
3.6.1 <u>Dredging Operation</u>	III-54
3.6.2 <u>Long-Term Disposal Site Monitoring</u>	III-54

III. APPENDIX III: ALTERNATIVES FOR MITIGATION OF DDT CONTAMINATION IN
HUNTSVILLE SPRING BRANCH AND INDIAN CREEK

TABLE OF CONTENTS (continued)

	<u>Page</u>
4.0 <u>OUT OF BASIN DIVERSION OF HUNTSVILLE SPRING BRANCH</u>	III-55
4.1 <u>INTRODUCTION</u>	III-55
4.2 <u>DIVERSION ALIGNMENT</u>	III-55
4.3 <u>DIVERSION DESIGN AND CONSTRUCTION</u>	III-58
4.3.1 <u>Design Criteria</u>	III-58
4.3.2 <u>Subsurface Exploration and Soil Tests</u>	III-64
4.3.3 <u>Construction</u>	III-64
4.3.4 <u>Work Scheduling and Project Duration</u>	III-65
5.0 <u>WITHIN-BASIN DIVERSION OF HUNTSVILLE SPRING BRANCH</u>	III-65
5.1 <u>INTRODUCTION</u>	III-65
5.2 <u>DIVERSION ALIGNMENT</u>	III-66
5.3 <u>DIVERSION DESIGN AND CONSTRUCTION</u>	III-67
5.3.1 <u>Design Criteria</u>	III-67
5.3.2 <u>Subsurface Exploration and Soil Tests</u>	III-71
5.3.3 <u>Construction</u>	III-71
5.3.4 <u>Work Scheduling</u>	III-72
5.4 <u>PREDICTED IMPACTS OF WITHIN-BASIN DIVERSION OF</u>	
6.0 <u>IN-PLACE CONTAINMENT, STABILIZATION, OR DETOXIFICATION OF CONTAMINATED SEDIMENTS</u>	III-72
6.1 <u>INTRODUCTION</u>	III-72
6.2 <u>METHODS CONSIDERED</u>	III-72
6.2.1 <u>Stabilization Systems</u>	III-72
6.2.2 <u>Impoundment Structures</u>	III-73
6.2.3 <u>Containment Dikes and Earthen Cover</u>	III-74
6.2.4 <u>In-Place Detoxification</u>	III-74
6.3 <u>CONTAINMENT ALTERNATIVES PROPOSED</u>	III-74
6.3.1 <u>Containment With Out-of-Basin Diversion of HSB</u>	III-74
6.3.2 <u>Containment With Within-Basin Diversion of HSB</u>	III-79
7.0 <u>AREAWIDE ENVIRONMENTAL MONITORING</u>	III-79

III. APPENDIX III: ALTERNATIVES FOR MITIGATION OF DDT CONTAMINATION IN
HUNTSVILLE SPRING BRANCH AND INDIAN CREEK

TABLE OF CONTENTS (continued)

	<u>Page</u>
8.0 <u>LEGISLATION, REGULATIONS, AND PERMITTING</u>	III-80
8.1 <u>CLEAN WATER ACT OF 1979</u>	III-80
8.2 <u>RIVER AND HARBOR ACT OF 1899</u>	III-81
8.3 <u>NATIONAL ENVIRONMENTAL POLICY ACT OF 1969</u>	III-81
8.4 <u>FISH AND WILDLIFE COORDINATION ACT OF 1934</u>	III-82
8.5 <u>RESOURCES CONSERVATION AND RECOVERY ACT OF 1976</u>	III-82
8.6 <u>HAZARDOUS MATERIALS TRANSPORTATION ACT OF 1974</u>	III-83
8.7 <u>ENDANGERED SPECIES ACT OF 1973</u>	III-83
8.8 <u>SECTION 26a OF THE TENNESSEE VALLEY AUTHORITY ACT</u>	III-83
8.9 <u>VARIOUS HISTORIC AND ARCHAEOLOGICAL DATA PRESERVATION LOG</u>	III-84
8.9.1 <u>Antiquities Act of 1906</u>	III-84
8.9.2 <u>Historic Sites Act of 1935</u>	III-84
8.9.3 <u>National Historic Preservation Act of 1966, as Amended</u>	III-84
8.9.4 <u>Preservation of Historic and Archaeological Data Act of 1974, Amending the Reservoir Salvage Act of 1960</u>	III-84
8.9.5 <u>Archaeological Resources Protection Act of 1979</u>	III-85
8.10 <u>ALABAMA HAZARDOUS WASTES MANAGEMENT ACT OF 1978</u>	III-85
8.11 <u>ALABAMA AIR POLLUTION CONTROL ACT OF 1971</u>	III-85
8.12 <u>OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION</u>	III-85
8.13 <u>EXECUTIVE ORDER 11988</u>	III-85
8.14 <u>EXECUTIVE ORDER 11990</u>	III-86
9.0 <u>PROPOSED ALTERNATIVES</u>	III-86
9.1 <u>ALTERNATIVE A: NATURAL RESTORATION</u>	III-86
9.2 <u>ALTERNATIVE B: DREDGING AND DISPOSAL</u>	III-89
9.2.1 <u>Methodology and Implementation for Alternative B</u>	III-89
9.2.2 <u>Cost Estimates for Alternative B</u>	III-89
9.3 <u>ALTERNATIVE C: OUT-OF-BASIN DIVERSION AND REMOVAL OF CONTAMINATED SEDIMENTS</u>	III-95
9.3.1 <u>Introduction</u>	III-95
9.3.2 <u>Out-Of-Basin Diversion</u>	III-95
9.3.3 <u>Dredging and Disposal</u>	III-95
9.3.4 <u>Cost Estimates</u>	III-100
9.4 <u>ALTERNATIVE D: OUT-OF-BASIN DIVERSION AND CONTAINMENT OF CONTAMINATED SEDIMENTS</u>	III-100
9.4.1 <u>Introduction</u>	III-100
9.4.2 <u>Out-of-Basin Diversion</u>	III-108
9.4.3 <u>Containment Methods</u>	III-108
9.4.4 <u>Dredging and Disposal</u>	III-108
9.4.5 <u>Cost Estimates</u>	III-108
9.5 <u>ALTERNATIVE E: WITHIN-BASIN DIVERSION AND REMOVAL OF CONTAMINATED SEDIMENTS</u>	III-109
9.5.1 <u>Introduction</u>	III-109
9.5.2 <u>Within-Basin Diversion</u>	III-109
9.5.3 <u>Dredging and Disposal</u>	III-109
9.5.4 <u>Cost Estimates for Alternative E</u>	III-115

III. APPENDIX III: ALTERNATIVES FOR MITIGATION OF DDT CONTAMINATION IN
HUNTSVILLE SPRING BRANCH AND INDIAN CREEK

TABLE OF CONTENTS (continued)

	<u>Page</u>
9.6 ALTERNATIVE E: WITHIN-BASIN DIVERSION AND CONTAINMENT OF CONTAMINATED SEDIMENTS	III-115
9.6.1 <u>Introduction</u>	III-115
9.6.2 <u>Within-Basin Diversion</u>	III-121
9.6.3 <u>Containment Methods</u>	III-121
9.6.4 <u>Dredging and Disposal</u>	III-123
9.6.5 <u>Cost Estimates for Alternative F</u>	III-123
10.0 <u>CULTURAL RESOURCES IMPACTS</u>	III-130
10.1 <u>INTRODUCTION</u>	III-130
10.2 <u>IMPACTS BY AREA</u>	III-130
10.2.1 <u>Contaminated Area</u>	III-133
10.2.2 <u>Dredge Material Disposal Sites</u>	III-134
10.2.3 <u>Out-of-Basin Diversion Corridor</u>	III-135
10.2.4 <u>Within-Basin Diversion Channel and Containment Dike</u>	III-136
10.3 <u>MITIGATION BY AREA</u>	III-136
10.3.1 <u>Contaminated Area</u>	III-138
10.3.2 <u>Dredged Material Disposal Sites</u>	III-139
10.3.3 <u>Out-of-Basin Diversion Channel and Dikes</u>	III-139
10.3.4 <u>Within-Basin Diversion Channel and Contain- ment Dike</u>	III-139
10.4 <u>IMPACTS AND MITIGATION FOR EACH ALTERNATIVE</u>	III-140
11.0 <u>ENVIRONMENTAL IMPACTS OF THE ALTERNATIVES</u>	III-140
11.1 <u>INTRODUCTION</u>	III-140
11.2 <u>DREDGING AND DISPOSAL</u>	III-140
11.3 <u>OUT-OF-BASIN DIVERSION OF HUNTSVILLE SPRING BRANCH</u>	III-148
11.4 <u>WITHIN-BASIN DIVERSION OF HUNTSVILLE SPRING BRANCH</u>	III-149
11.5 <u>CONTAINMENT WITH OUT-OF-BASIN DIVERSION</u>	III-150
11.6 <u>CONTAINMENT WITH WITHIN-BASIN DIVERSION</u>	III-152
11.7 <u>ALTERNATIVE A: NATURAL RESTORATION</u>	III-152
11.8 <u>ALTERNATIVE B: DREDGING AND DISPOSAL</u>	III-152
11.9 <u>ALTERNATIVE C: OUT-OF-BASIN DIVERSION AND REMOVAL OF CONTAMINATED SEDIMENTS</u>	III-153
11.10 <u>ALTERNATIVE D: OUT-OF-BASIN DIVERSION AND CONTAIN- MENT OF SEDIMENTS</u>	III-156
11.11 <u>ALTERNATIVE E: WITHIN-BASIN DIVERSION AND REMOVAL OF CONTAMINATED SEDIMENTS</u>	III-156
11.12 <u>ALTERNATIVE F: WITHIN-BASIN DIVERSION AND CONTAINMENT OF CONTAMINATED SEDIMENTS</u>	III-159
11.13 <u>SUMMARY OF ENVIRONMENTAL IMPACTS OF THE ALTERNATIVES</u>	III-159
12.0 <u>PREDICTED EFFECTIVENESS OF MITIGATION ALTERNATIVES</u>	III-162

APPENDIX IV: QUALITY ASSURANCE DOCUMENT

TABLE OF CONTENTS

	<u>Page</u>
1.0 <u>INTRODUCTION</u>	1
2.0 <u>SCOPE</u>	1
3.0 <u>PROCEDURES AND RESPONSIBILITIES</u>	1
4.0 <u>QUALITY CONTROL METHODS</u>	4
5.0 <u>RESULTS AND DISCUSSION</u>	11
6.0 <u>CONCLUSIONS</u>	36
Tables	Attachment 1
Figures	Attachment 2
Analytical Methodology	Attachment 3

APPENDIX V: WORKTASK DESCRIPTIONS AND RESULTS FOR 7 TVA WORKTASKS

TABLE OF CONTENTS

	<u>Page</u>
TASK 1: DDT LEVELS IN IMPORTANT FISH SPECIES THROUGHOUT WILSON, WHEELER, AND GUNTERSVILLE RESERVOIRS	
Worktask Description	1
Sampling Location Maps	Appendix B
Raw Data Tabulations	Appendix B
TASK 2: FISH POPULATIONS ESTIMATES AND DDT CONCENTRATIONS IN YOUNG-OF-YEAR FISHES FROM INDIAN CREEK AND HUNTSVILLE SPRING BRANCH EMBAYMENTS OF WHEELER RESERVOIR	
Worktask Description	1
Sampling Location Maps	Appendix A
Fish Population Estimate Data	Appendix B
Physical Data on Young-of-the-Year Fish Selected for DDTR Analysis	Appendix C
DDTR Analysis Data for Young-of-the-Year Fish Samples	Appendix D
TASK 3: ASSESSMENT OF DDT CONCENTRATIONS IN SEDIMENTS CORRESPONDING TO AREA-WIDE FISHERIES STUDIES	
Worktask Description	1
Sampling Location Maps	Appendix A
Raw Data Tabulations	Appendix B
TASK 4: ASSESSMENT OF DDT CONCENTRATIONS AND OTHER CONTAMINANTS IN SEDIMENTS IN REDSTONE ARSENAL VICINITY	
Worktask Description	1
Sampling Location Maps	Appendix A
Transect Cross-sections and Procedures	Appendix B
Transect Cross-sections and Procedures	Appendix B
Raw Data Tabulations	Appendix C
TASK 5: AQUATIC BIOTRANSPORT (EXCLUDING VERTEBRATES)	
Worktask Description	1
Purpose	1
Scope	1
Sample Collection and Handling	2
Sample Analysis	10
Data Handling and Reporting	11

APPENDIX V: WORKTASK DESCRIPTIONS AND RESULTS FOR 7 TVA WORKTASKS

TABLE OF CONTENTS (continued)

	<u>Page</u>
Data Summary	12
Rainfall Survey	12
Late Summer/Early Fall	14
Late Fall/Early Winter	20
Raw Data Tabulations	23
Maps of Sampling Sites	Appendix
TASK 6: VOLUME 1. HYDROLOGIC AND SEDIMENT DATA	
Preface	iii
List of Figures	v
List of Tables	vi
1.0 Purpose and Scope	1
1.1 Purpose	1
1.2 Scope	1
2.0 Instrumentation	3
3.0 Sample Collection	12
3.1 Sampling Schedule	12
3.2 Discharge Measurements	12
3.3 Water Quality Samples	31
4.0 Sample Handling and Laboratory Methodology	33
5.0 Data Tabulations	35
5.1 Discharge Measurements	45
5.2 Discharge Measurements	45
5.3 Suspended Sediment and DDTR Data	45
5.4 Bed Sediment Data	45
5.5 Special Samples	45
Appendix	75
TASK 7: ASSESSMENT OF DDT LEVELS OF SELECTED VERTEBRATES IN AND ADJACENT TO WHEELER, WILSON, AND GUNTERSVILLE RESERVOIRS (SPATIAL EXTENT OF CONTAMINATION)	
Worktask Description	1
1.0 Purpose	1
2.0 Scope	1
3.0 Sample Collection and Handling	1
4.0 Sample Analysis	4
Sample Location Maps	Appendix A
Raw Data Tabulations	Appendix B

APPENDIX VI: WORKTASK DESCRIPTIONS AND RESULTS FOR 3 WAR
WORKTASKS AND QUALITY ASSURANCE DOCUMENT

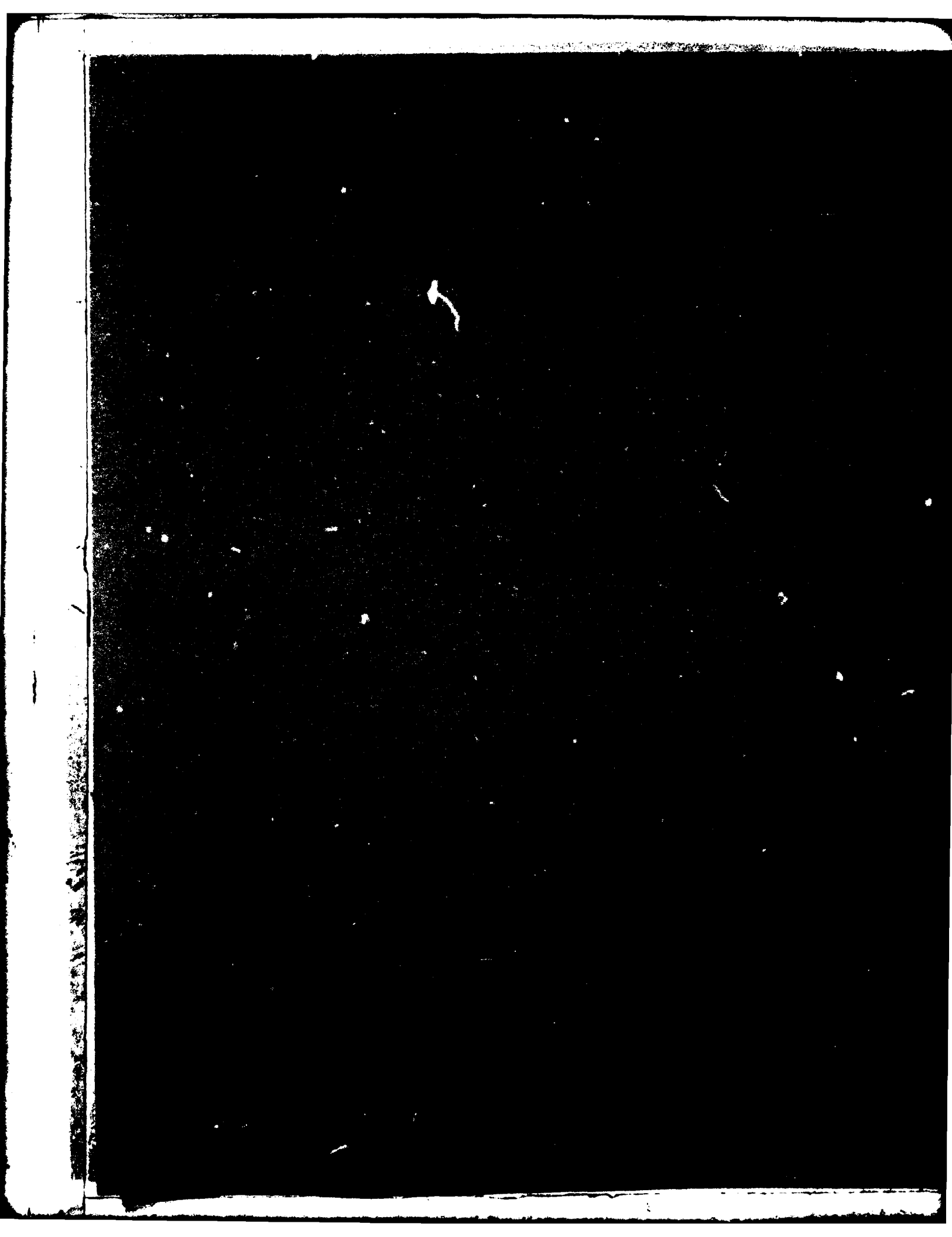
TABLE OF CONTENTS

	<u>Page</u>
TASK 1: ENVIRONMENTAL ASSESSMENT OF UNNAMED CREEK SYSTEM A PRINCIPAL CANDIDATE FOR RECEIVING DIVERSION FLOW	
1.0 <u>PURPOSE</u>	VI-1
2.0 <u>SCOPE</u>	VI-1
3.0 <u>PROCEDURES</u>	VI-1
3.1 TYPES OF SAMPLES	VI-1
3.2 STATION LOCATION	VI-1
3.3 FIELD COLLECTION	VI-1
3.3.1 <u>Organism Collection</u>	VI-1
3.3.2 <u>Habitat Description</u>	VI-1
3.3.3 <u>Data Handling and Reporting</u>	VI-2
4.0 <u>SCHEDULE</u>	VI-2
TASK 2: VEGETATIVE MAPPING OF AREAS POTENTIALLY AFFECTED BY DREDGING OR DIVERSION ALTERNATIVES	
1.0 <u>PURPOSE</u>	VI-5
2.0 <u>SCOPE</u>	VI-5
3.0 <u>PROCEDURE</u>	VI-5
3.1 LOCATION OF AREAS SURVEYED	VI-6
3.2 FIELD COLLECTION	VI-6
3.3 DATA HANDLING AND REPORTING	VI-6
4.0 <u>SCHEDULE</u>	VI-6
TASK 3: WORKPLAN FOR DETERMINING DDT LEVELS IN THREE FISH SPECIES IN WHEELER RESERVOIR	
1.0 <u>PURPOSE</u>	VI-14
2.0 <u>SCOPE</u>	VI-14
3.0 <u>PROCEDURES</u>	VI-14
3.1 SAMPLE LOCATIONS	VI-14
3.2 TYPES OF SAMPLES	VI-14
3.3 FIELD COLLECTION	VI-14
3.4 SAMPLE HANDLING	VI-14
3.5 ANALYTICAL METHODOLOGY	VI-15
3.5.1 <u>Applicable Documents</u>	VI-15
3.5.2 <u>Summary of Method</u>	VI-15

APPENDIX VI: WORKTASK DESCRIPTIONS AND RESULTS FOR 3 WAR
WORKTASKS AND QUALITY ASSURANCE DOCUMENT

TABLE OF CONTENTS, Continued

	<u>Page</u>
QUALITY ASSURANCE FOR WATER AND AIR RESEARCH, INC. SUMMER 1980 FISH SAMPLING	VI-22
1.0 <u>OBJECTIVE</u>	VI-22
2.0 <u>SCOPE</u>	VI-22
3.0 <u>PROCEDURES AND METHODS</u>	VI-22
3.1 <u>SAMPLING AND SAMPLE HANDLING</u>	VI-22
3.2 <u>SELECTION OF SAMPLES FOR QUALITY CONTROL</u>	VI-22
3.3 <u>PROCEDURE FOR BLINDING SAMPLES</u>	VI-22
3.4 <u>STATISTICAL EVALUATION</u>	VI-22
4.0 <u>RESULTS</u>	VI-23
4.1 <u>COMPOSITE FISH ANALYSES</u>	VI-23
4.1.1 <u>WAR Blind Splits</u>	VI-23
4.1.2 <u>Between-Laboratory Splits</u>	VI-23
4.2 <u>INDIVIDUAL FISH ANALYSIS</u>	VI-23
4.2.1 <u>WAR Blind Splits</u>	VI-23
4.2.2 <u>Between-Laboratory Splits</u>	VI-23
5.0 <u>CONCLUSION</u>	VI-23



ERRATA SHEET FOR
QUALITY ASSURANCE DOCUMENTS FOR DDT STUDY
TVA - SEPTEMBER 30, 1980

<u>Document Description</u>	<u>Page</u>	<u>Section</u>	<u>Change</u>
QA Document	2	3.3	Add at end of section "were analyzed by TVA"
QA Document	2	3.5	"Microinvertebrates" to "macroinvertebrates"
QA Document	9	4.4.3.1	Change "50 gram" to "25 gram"
QA Document	12	5.1.1.1	Change "auto sampler" to "autosampler"
QA Document	14	5.1.2.1	Change "(see section 5.1.3.4)" to "(see section 5.1.3.5)"
QA Document	23	5.3.2.1	Change "Stewart" to "SLI"
Attachment 1		Table 39	On Lab ID Number IM-10, the sample analyzed by SLI having a total DDTR of 0.849 µg/g should be listed under TVA Lab ID IM-27

ENGINEERING AND ENVIRONMENTAL STUDY
OF DDT CONTAMINATION OF HUNTSVILLE
SPRING BRANCH, INDIAN CREEK, AND
ADJACENT LANDS AND WATERS,
WHEELER RESERVOIR, ALABAMA

QUALITY ASSURANCE DOCUMENT

Tennessee Valley Authority
Office of Natural Resources

August 1980

PREFACE

This document was prepared in support of the Engineering and Environmental Study of DDT contamination of Huntsville Spring Branch, Indian Creek, and Adjacent Lands and Waters, Wheeler Reservoir, Alabama, for the U.S. Corps of Engineers.

This document contains information produced in fulfillment of an interagency agreement between the U.S. Corps of Engineers and the Tennessee Valley Authority (TVA Contract No. TV-52305A).

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TABLE OF CONTENTS

	<u>Page</u>
<u>1.0 OBJECTIVE</u>	1
<u>2.0 SCOPE</u>	1
<u>3.0 PROCEDURES AND RESPONSIBILITIES</u>	1
<u>4.0 QUALITY CONTROL METHODS</u>	4
<u>5.0 RESULTS AND DISCUSSION</u>	11
<u>6.0 CONCLUSIONS</u>	36
Tables	Attachment 1
Figures.	Attachment 2
Analytical Methodology	Attachment 3

QUALITY ASSURANCE PROGRAM

1.0 OBJECTIVE

The objective of this quality assurance program was to utilize procedures which would ensure that final analytical data were truly valid and representative of the concentration profile for the media analyzed. Data from this program were used to assess and measure the precision and accuracy of analytical results obtained throughout the study and to identify any segment of the total effort which may have been invalid.

2.0 SCOPE

The scope of this program covered the intralaboratory quality control procedures used in Stewart Laboratories, Inc. (SLI), Environmental Protection Agency (EPA), and in the Tennessee Valley Authority's Laboratory Branch (TVA). It also covered the interlaboratory quality control procedures for the data generated by SLI and the EPA Region IV Laboratory Services Branch.

3.0 PROCEDURES AND RESPONSIBILITIES

- 3.1 Samples and field data sheets were received by TVA from various field crews as detailed in the seven individual task workplans. The samples were inventoried, irregularities noted, laboratory worksheets prepared, and TVA analysts instructed on the preliminary sample preparation procedures.
- 3.2 Special studies were designed by TVA to ensure that samples were prepared properly and that their analyses would yield usable results. These studies were discussed with the Corps of Engineers (CORP) and Water and Air Research, Inc. (WAR) to get general concurrence before they were conducted.

- 3.6 On approximately 10 percent of the samples analyzed, a second aliquot was removed by SLI and used as a "blind sample" for the analysis of all six isomers of DDTR.
- 3.7 With some batches of sediment, water, and fish samples, a "pooled" sample having an established concentration was submitted for long-term quality control purposes.
- 3.8 Data on laboratory worksheets were received by TVA from the various laboratories and the data consolidated onto a master laboratory worksheet. After these tabulated data were reviewed for completeness and reasonableness, copies were sent to the CORP, WAR, and appropriate task leaders within the Tennessee Valley Authority. If irregularities in the data were observed, the responsible laboratory was asked to either assist in resolving the discrepancies or reanalyze the samples in question.
- 3.9 The tabulated data were coded and stored in a computer by TVA. Final computer printouts were proofed against the raw data.
- 3.10 All quality control charts were reviewed by TVA to ensure that the analytical procedure was "in control" during the analysis. TVA made a preliminary review of split sample data and attempted to resolve any discrepancies before these data were statistically evaluated.
- 3.11 A statistical evaluation of the split sample data was performed by WAR. Conclusions regarding significant differences between STEWART and EPA data were made based on the results of these evaluations along with the intralaboratory quality control data and the results from the "pooled" samples.

4.0 QUALITY CONTROL METHODS

4.1 Intralaboratory Control Charts

4.1.1 SLI Quality Control Procedures--A mid-range standard was analyzed throughout the analysis run as every tenth determination (in some projects every seventh determination). Results of these analyses were plotted on control charts with control limits generated through past analysis of samples or standard reference material. The upper and lower control limits (UCL and LCL) were defined as ± 15 percent bias, while upper and lower warning limits (UWL and LWL) were set at ± 10 percent bias. The results were plotted daily on the control charts. It was a standard policy to reanalyze all samples determined during a period shown to be "out-of-control."

4.1.2 TVA Quality Control Procedures

4.1.2.1 Evaluation of Accuracy

4.1.2.1.1 The data for accuracy quality control charts were generated by analyzing actual samples spiked with a known amount of analyte. The percent recovery was determined, and 100 percent was subtracted from it to obtain percent bias. This value was plotted on a control chart indicating upper and lower warning and control limits.

4.1.2.1.2 The limits for accuracy control charts were calculated from actual recovery data for large batches of samples (nominally, at least 20). From the individual values of percent bias (x_i), the mean ($\bar{x}$) and standard deviation (SD) are calculated. The warning limits (UWL and LWL) and control limits (UCL and LCL) are $\bar{x} \pm 1$ SD and $\bar{x} \pm 2$ SD, respectively.

4.1.2.1.3 Two consecutive points or repeated points outside the warning limits (± 1 SD) required a close examination of the system to prevent it from going out of control. The analysis was "out of control" when any point fell outside the control limits (± 2 SD). It was a standard policy to reanalyze all samples determined during a period shown to be out-of-control.

4.1.2.2 Evaluation of Precision

4.1.2.2.1 The data for precision quality control charts were generated by analyzing actual samples in duplicate. The difference between the two values (x_i) was multiplied by 0.89 to obtain the standard deviation (SD). The standard deviation times 100 divided by the mean of the duplicate values yielded the relative standard deviation in percent (% RSD), the unit used in plotting precision control charts.

4.1.2.2.2 The limits for precision control charts were calculated from actual precision data for large batches of samples (nominally, at least 20). From the individual values of relative standard deviation (x_i), the mean ($\bar{x}_i$) and standard deviation (SD) were calculated. The upper warning and control limits (UWL and UCL) were $\bar{x} + 1$ SD and $\bar{x} + 2$ SD, respectively.

4.1.2.2.3 Two consecutive points or repeated points outside the warning limit required corrective action. The analysis was out-of-control when any point fell outside the control limits. It was a standard policy to reanalyze all samples determined during a period shown to be out-of-control.

4.1.3 EPA Quality Control Procedures

4.1.3.1 Evaluation of Accuracy

- 4.1.3.1.1 A reagent blank was analyzed with each set of samples (12 samples or less) to determine if any contamination problems existed.
- 4.1.3.1.2 A reagent blank, spiked with the DDTR compounds, was analyzed with each set of samples. The percent recoveries are listed in Table 1.
- 4.1.3.1.3 Analytical standards of all DDTR compounds were analyzed on the GC/EC after every fifth sample.

4.1.3.2 Evaluation of Precision

One sample was analyzed in duplicate with each set of samples. The difference between the two values (x_i) was multiplied by 0.89 to obtain the estimated standard deviation (SD). The standard deviation times 100, divided by the mean of the duplicate values, yielded the relative standard deviation in percent (% RSD). This precision data is listed in Table 1.

4.2 Intralaboratory Blind Reference Samples

- 4.2.1 Standard aqueous reference samples (SRM) supplied by Environmental Resource Associates (ERA) having a certified concentration of one of the DDT isomers were analyzed as blind samples by SLI with each analysis batch containing 20 or more samples. These results were used to provide a measure of the accuracy with each batch of samples analyzed.

4.3 Intralaboratory Blind Split Samples

4.3.1 Laboratory Procedure

The SLI project director or QC coordinator prepared a second aliquot from the original sample and assigned new numbers to

all the samples in the batch, and the samples inserted into the analytical stream. Ten percent of the samples were analyzed as blind replicates. These blind split data were subjected by SLI to a specialized statistical treatment which determined if significant differences existed between the set of original samples and the corresponding set of splits.

4.3.2 Statistical Evaluation of Blind Split Data

In addition to the analysis noted above, blind split results were analyzed by using the concept of percent relative error which is defined as the difference between two replicate samples divided by the mean of the samples expressed as percent. It is calculated as follows:

$$\% \text{ Relative error} = \frac{\{\text{sample 1} - \text{sample 2}\}}{\{\text{sample 1} + \text{sample 2}\}} 200$$

Percent relative error can vary only between -200 and +200.

A helpful way of conceptualizing relative error is to consider its relationship to the ratio of the samples. This relationship can be calculated as follows:

$$\text{Ratio } \frac{\text{sample 1}}{\text{sample 2}} = \frac{\{200 + \% \text{ relative error}\}}{\{200 - \% \text{ relative error}\}}$$

Representative values are as follows:

Ratio	$\frac{\text{sample 1}}{\text{sample 2}}$	% Relative Error	Ratio	$\frac{\text{sample 1}}{\text{sample 2}}$	% Relative Error
	0	-200		∞	200
	0.01	-196		100	196
	0.10	-164		10	164
	0.20	-138		5	133
	0.33	-100		3	100
	0.50	- 67		2	67
	0.67	- 40		1.5	40
	0.83	- 18		1.2	18

In the calculation of percent relative error it was necessary to adopt some convention regarding the evaluation of "less than detection limit" values for some isomers in calculating DDTR values. It was decided that average DDTR values would be used, i.e., that "less than" values would be assumed to be one-half the detection limit. In some cases the range of possible results that could be obtained, based on how "less than" values were considered, made it impossible to conclude which sample was larger. This occurred most often where concentrations were very low. It was decided that these sample pairs yielded no valid information regarding relative results and such pairs were not considered in average relative error calculations. In evaluating blind split samples, the order of the samples was assumed to be immaterial. Thus the absolute value of the relative error was utilized.

4.4 Interlaboratory "Pooled" Sample

4.4.1 "Pooled" Water Sample--A "pooled" water sample was prepared by spiking 19 liters of deionized water with all isomers of DDTR (except p,p', DDD) to obtain a calculated DDTR concentration of 25 µg/L. A total of 38 aliquots containing 500 mL each were removed and stored at 4°C. Samples were submitted with some batches of water samples for long-term quality control purposes.

4.4.2 "Pooled" Sediment Samples--A "pooled" sediment sample was prepared by compositing eight quarts of sediment collected from Indian Creek mile 2.5. The sample was mixed by intermittently stirring by hand for three days. The sample was

then mixed for thirty minutes with a hand mixer. The sample was then quartered and the first and third quarter removed and mixed. The same was repeated with the second and fourth quarter. The quartering process was repeated several times. After the mixing was complete, 50-gram aliquots were removed and frozen in aluminum pans. Samples were submitted with some batches of sediment samples for long-term quality control purposes.

4.4.3 "Pooled" Fish Sample

4.4.3.1 Several channel catfish which were collected from Tennessee River mile 283 were fileted, skinned, and shipped to TVA. The fish filets were allowed to partially thaw and then passed through a Hobart meat grinder (1/8" porosity). The blended fish was caught in a stainless steel pan, quartered, and reground taking in order the first, third, second, and then the fourth quarters. This procedure was repeated five times. Approximately 50-gram aliquots were weighed into aluminum pans and frozen. These were used for the low concentration "pooled" fish sample.

4.4.3.2 The procedure used above was repeated using channel catfish from Indian Creek mile 0.5-6.0 to obtain a control sample with a high concentration of DDTR.

4.4.3.3 Both high and low "pooled" fish samples were submitted with some batches of fish samples for long-term quality control purposes.

4.5 Interlaboratory Split Samples

4.5.1 Procedure

4.5.1.1 Water

On approximately 10 percent of the samples received by TVA, aliquots were sent to EPA and SLI for DDTR analysis to determine interlaboratory precision. These samples were prepared by compositing using a churn splitter (see section 5.1.3.1) and removing two aliquots for analysis.

4.5.1.2 Sediment

Sediment samples were composited and thoroughly mixed to assure a homogeneous sample (see section 5.2.3.1). On approximately 10 percent of the samples, after the sample had been uniformly mixed, two aliquots were removed. These two aliquots were sent for analysis to EPA and SLI to determine interlaboratory precision.

4.5.1.3 Fish and Vertebrates

Each fish or vertebrate sample was homogenized by either dicing or blending. On 10 percent of the samples, two aliquots of the well-mixed fish were removed and sent to EPA and SLI for interlaboratory precision.

4.5.1.4 Plankton, Benthos, and Aufwuchs

The sample size for all the plankton samples and the majority of the benthos and aufwuchs samples collected were too small to allow splitting for interlaboratory precision. On all the benthos and aufwuchs samples that were large enough to split, the samples were first homogenized, then divided into two aliquots and sent to EPA and SLI for analysis.

4.5.1.5 Plants

Since it would have been difficult to split the plant samples, it was decided that all the plant samples would be sent to SLI for preparation and analysis. After the initial step in the procedure where the samples were blended in the solvent, 10 percent of the sample extracts were split and returned to TVA. These extracts were in turn sent to EPA for interlaboratory quality control.

4.5.2 Statistical Evaluation of Interlaboratory Split Data

Interlaboratory split data were analyzed using percent relative error to determine if bias existed between SLI and EPA. This procedure is explained in Section 4.3.2.

5.0 RESULTS AND DISCUSSION

5.1 Water Samples

5.1.1 Intralaboratory Data

5.1.1.1 Quality Control Charts--Intralaboratory control charts for DDTR analyses were performed by SLI as described in section 4.1.1. During one analytical run on August 27, 1979, while analyzing Task 3 sediment and water, the control chart data points fell beyond the warning limits on the control charts as a result of an antecedent power outage due to road construction near the laboratory. As soon as the instrumentation systems were allowed to equilibrate, stable conditions returned. In another case, one "out-of-control" period occurred on September 14, 1979, while analyzing Task 4 sediments and Task 6 water samples. Many of the samples from these tasks contained high concentrations of DDTR and had contaminated

the auto sampler. The system was shut down and cleaned extensively. When normal operating conditions were again established, all samples which had been analyzed on September 14, 1979, were reanalyzed. There were no other "out-of-control" situations either in SLI or TVA that occurred during the analysis of water samples. The completed control charts were placed in TVA files and are available for future inspections.

- 5.1.1.2 Reference Samples--Blind aqueous reference samples supplied by Environmental Resource Associates were inserted into the analytical stream by Stewart as described in section 4.2. They were analyzed with each batch of samples to assure the consistency of the data. These data are tabulated in Table 2, along with the TVA project number with which the reference samples were analyzed. A list of the TVA project numbers and the type and task number of the samples analyzed on that project is given in Table 3.

Since several types of samples were analyzed during one project, along with the reference material, it was impossible to separate the results from the reference material by the type of samples analyzed for the purpose of determining the intralaboratory accuracy for each type of material analyzed. The average recovery for all the reference material analyzed during the DDT project was 93 ± 14 percent. The recoveries ranged from a low of 69.2 percent and a high of 126 percent. A statistical summary of the reference data is given in Table 4.

5.1.1.3 Blind Split Samples--Intralaboratory blind split samples were analyzed as described in section 4.3.1. DDTR analyses were performed on three types of water samples. The entire water sample was analyzed as is (total water), the solids in the water were analyzed (suspended solids), and filtered water samples (dissolved water) were analyzed. Blind split samples within SLI were analyzed for total and filtered water samples. The results are shown in Tables 5 and 6. Many samples had concentrations at or below detection limits making it impossible to determine which of the pair of values was higher. Mean absolute relative error was determined using only sample pairs where one value could be determined to be different from the other. With this procedure, mean absolute relative error was determined to be 12 percent for total water samples and 16 percent for filtered water samples. These relative error values correspond to mean sample ratios of 1.13 and 1.17, respectively.

5.1.1.4 "Pooled" Water Samples--A "pooled" water sample was prepared as directed in section 4.4.1. Replicate water samples were not submitted to either EPA or SLI to determine intralaboratory precision.

5.1.2 Interlaboratory Data

5.1.2.1 "Pooled" Water Samples

A total of fifteen "pooled" water samples were analyzed by SLI and eight by EPA. These results are tabulated in Table 7. Part of these samples were analyzed after the analytical methodology for the analysis of water had been modified to include the addition of salt before extraction

(see section 5.1.3.4). SLI obtained a mean concentration of 15.4 ± 2.7 $\mu\text{g/L}$ before the methodology change on eight "pooled" samples and 19.7 ± 1.5 on seven "pooled" samples after the procedural change. This is a significant increase in DDTR recovery (significance level is <0.01) using the modified analytical procedure. EPA obtained a mean concentration of 15.3 ± 2.7 $\mu\text{g/L}$ on six "pooled" water samples before the methodology change. On two "pooled" samples analyzed by EPA after the methodology change, a mean concentration of 21.3 was obtained.

5.1.2.2 Split Samples

Total water, suspended solids, and filtered water samples were split between SLI and EPA. The results are shown in Tables 8-10. Mean percent relative error was calculated using only sample pairs where one result was definitely different from the other. The values were 0 percent, 7 percent, and 6 percent, respectively, for the three sample types. Relative errors greater than 1.0 denote SLI results higher than EPA.

5.1.3 Special Studies

5.1.3.1 Use of the Churn Splitter

5.1.3.1.1 Objective--During the preparation of the workplans, it was pointed out that a churn splitter should be used to composite the water samples. The churn splitter designed by the U.S. Geological Survey (USGS) to enable the preparation of a homogeneous mixture of water and sediment was selected as the equipment for preparing composite water samples containing various amounts of suspended solids. The objective of this study was to ensure that the plastic material of which the

churn splitter was made would not contaminate the sample, nor would adsorb DDTR. A secondary objective of this study was to verify that the splitter could be used to obtain replicate aliquots.

5.1.3.1.2 Experimental Design and Results--A water standard containing 0.1 µg/L of DDTR was placed into two clean plastic churn splitters and aliquots withdrawn from each after 3 minutes and 4 hours. Each aliquot was analyzed for DDTR by the analytical procedure referenced in Attachment 3. Each chromatogram was inspected to see if extraneous peaks were present. None were detected. The concentrations of DDTR measured gave average DDTR recoveries of 67 percent after 3 minutes and 75 percent after 4 hours. These recoveries were unacceptable, so a new churn splitter was fabricated from aluminum and stainless steel. DDTR recovery studies were performed on two different days using the metal churn splitter and recoveries of 90 percent immediately after mixing, 84 percent after 2 hours, and 78 percent after 4 hours were obtained. These data were acceptable since samples would be in contact with the container for less than 30 minutes. A sample collected from the first rain event was added to the splitter and, after mixing according to USGS directions, seven aliquots were withdrawn for non-filterable residue and total DDTR analysis. The results from this study are shown in Table 11. The seven replicates gave a mean concentration of suspended solids of 51 mg/L with a standard deviation of 1.07. The mean for the total DDTR concentration was 14.8 µg/L with a

standard deviation of 0.90. This was a percent relative standard deviation of 2.1 for the non-filterable residue and 6.1 for the total DDTR.

5.1.3.1.3 Conclusion--A sample containing DDTR can be added to a metal churn splitter and homogeneous samples removed without significant losses of DDTR.

5.1.3.2 Use of Cellulose Membrane Filters

5.1.3.2.1 Objective--The elutriate test procedure specifies that cellulose membrane filters are to be used to obtain the filterable portion of a sample. The objective of this study was to determine if suspended particulates could be removed by filtering samples through a cellulose membrane filter without contaminating the filtrate or removing DDTR from the sample.

5.1.3.2.2 Experimental Design and Results--A deionized water sample was spiked with five DDTR isomers and shipped to SLI. The sample was filtered through the cellulose membrane and the filtrate analyzed for DDTR. The data are shown in Table 12. Only 25.0 percent of the original DDTR was recovered in the filtrate. This study indicated that DDTR was readily adsorbed by membrane filters.

5.1.3.2.3 Conclusion--It was agreed by the Corps of Engineers that glass fiber filters had to be used when samples were filtered for the elutriate tests and analysis of the priority pollutants, and that membrane filters could not be used for determining the concentration of dissolved DDTR in water samples. Portions of the filtrate obtained using glass fiber filters were refiltered using 0.45 μ membrane filters to determine the suspended solids passing the glass fiber filters.

5.1.3.3 Extraction Efficiency of DDTR from Suspended Solids

5.1.3.3.1 Objective--The objective of this study was to determine the effectiveness of the water analytical procedure for extracting DDTR from samples containing different concentrations of suspended solids.

5.1.3.3.2 Experimental Design and Results--Six water samples (three deionized and three native water) containing 73 mg/L, 370 mg/L, and 3,700 mg/L of suspended solids was made from the "pooled" sediment sample which had a total DDTR concentration of 21.6 µg/g. Recoveries of the DDTR from the sediment in deionized water were 43.7, 45.9, and 47.4 percent, respectively, for the above three suspended solids concentrations. The recoveries from the native water matrix were 25.8, 43.4, and 49.7 percent, respectively, at the same suspended solids concentration. A tabulation of this data is listed in Table 13.

5.1.3.3.3 Conclusion--From this limited data, it was determined that water and suspended solids might have to be analyzed separately to increase extraction efficiencies. To determine this, a mass balance study was conducted on the water by analyzing for total, dissolved, and suspended DDTR. This special study is described in 5.1.3.4. Also, the procedure for analyses of water for dissolved DDTR was modified to include a "salting out" step. This is described in 5.1.3.5.

5.1.3.4 Comparison of DDTR Analysis on Total Water
by Both Calculation and Direct Analysis

5.1.3.4.1 Objective--Apparent problems of recovering DDTR from suspended particulates in water led to a suggested modification of the water analytical procedure. The sediment analytical procedure

appeared to be more efficient in removing DDTR from sediment particles. On the fifth rainfall event, whole water samples were analyzed along with the dissolved and suspended fractions. The objective of this study was to compare the sum of suspended DDTR and dissolved DDTR to the value when a whole water sample was analyzed for DDTR to estimate extraction efficiencies.

5.1.3.4.2 Experimental Design and Results--Ten one-liter samples from rain event No. 5 of Task 6 were filtered and the residue on the pad analyzed as a sediment sample. The filtrate and an unfiltered sample were also analyzed for DDTR. The results (Table 14) showed that slightly higher values are obtained for total DDTR by analyzing the filterable and suspended portions separately rather than analyzing the whole water sample.

5.1.3.4.3 Conclusion--From these data, it appears that there is no significant problem in extracting DDTR from suspended particles in unfiltered samples at these suspended solids concentrations. These data do not agree with those of the extraction experiment (5.1.3.3.3) and differences cannot be explained except for differences in the suspended solids particle sizes in the two experiments. However, the data in this study should be more valid since the analysis was performed on real samples.

5.1.3.5 Modification of Analytical Procedure

5.1.3.5.1 Objective--This study was suggested as a result of questions that arose about the preliminary data. The objective of this special study was to determine if the addition of salt would increase the extraction efficiency for DDTR on particles that pass through a glass fiber filter and is included in the filterable phase.

5.1.3.5.2 Experimental Design and Results--Four samples were split and analyzed both with and without the addition of salt. Sodium chloride was added prior to extraction to half of the split samples. The other half of the split samples were analyzed without the addition of salt. The results (Table 15) showed only a marginal increase in extraction efficiency with the addition of salt prior to the extraction. However, the salt enhanced the phase separation between the water and the solvent, thus making the extraction step easier.

5.1.3.5.3 Conclusion--It was a mutual agreement between the CORP, TVA, EPA, and SLI that salt would be added for the DDTR analysis on the filterable samples associated with rains 5, 6, and 7 of task 6.

5.2 Sediment

5.2.1 Intralaboratory Data

5.2.1.1 Quality Control Charts

Intralaboratory control charts were plotted for DDTR analyses by SLI as described in section 4.1. There were two occasions when "out-of-control" conditions existed while analyzing sediment samples. For a discussion of these incidents see section 5.1.1.1.

5.2.1.2 Reference Samples

During the analysis of sediment samples, blind aqueous reference samples supplied by Environmental Resource Associates were inserted into the analytical stream by SLI as described in section 4.2. Since several types of samples were analyzed during one project along with the reference material, it was impossible to separate the results from the reference samples

by the types of samples analyzed. A discussion on the results of the reference material is found in section 5.1.1.2.

5.2.1.3 Blind Split Samples

Intralaboratory blind split samples were analyzed as described in section 4.3. The results from these blind split samples are shown in Table 16. Mean absolute relative error for sample pairs where one sample is definitely different from the other was 14 percent. This corresponds to a mean ratio of 1.15 for sample pairs.

A second set of blind split analyses resulted from a request for selected individual sediment core analyses. Samples were prepared from the original cores by TVA and resubmitted to SLI. Inadvertently, seven of the requested analyses had been performed previously. The mean absolute relative error for this sample group was 84 percent (mean sample ratio of 2.45). The results are shown in Table 17. The higher relative error probably was due to lack of homogeneity in the sediment core.

5.2.2 Interlaboratory Data

5.2.2.1 "Pooled" Sediment Samples

A "pooled" sediment sample was prepared as directed in section 4.1.4.2. Five replicates of the homogenized mass of sediment were sent to SLI and EPA. Data analysis of their results (shown in Table 18) for total residual DDTR indicates a tendency for concentrations from EPA to be about 14 percent higher than SLI. This result is statistically significant at $p = .037$, based on a two-sample t-test of equality of mean laboratory determinations. It applies to sediment with DDTR concentrations in the range of 25 to 30 $\mu\text{g/g}$.

Summary Statistics

	<u>Stewart</u>	<u>EPA</u>
Mean	25.61	29.52
Standard Deviation	1.60	3.10
Coefficient of Variation	6.2%	10.5%
Difference (STEWART - EPA)	-3.91 µg/g	
Relative Difference	-14.2%	

Eight additional "pooled" sediment samples were submitted with the routine samples as long-term QC samples. These results are also shown in Table 18. Six samples were analyzed by SLI giving a mean concentration of 22.6 µg/g with a standard deviation of 4.8 µg/g. On the two samples analyzed by EPA, a mean concentration of 28 µg/g was obtained. These results compare favorably with the results obtained on the replicate samples. The pooled sample data indicates that there may be a slight negative bias on SLI's sediment analysis when compared to EPA results.

The "pooled" sediment was also analyzed in replicate for trace metals and particle size to determine intralaboratory precision. These results are shown in Table 19.

5.2.2.2 Split Samples

Interlaboratory split sediment samples were analyzed as directed in section 4.5. The results from these samples are shown in Table 20. The mean relative error for samples where one value is definitely different from the other is 21 percent (SLI 1.23 times EPA values).

5.2.3 Special Studies

5.2.3.1 Sediment Compositing Verification

5.2.3.1.1 Objective--Sediment samples contain gravels, shells, leaves, sticks, and etc.; therefore, it is very difficult to homogenize the sample so that a representative aliquot can be withdrawn for analysis. The objective of this study was to determine the effectiveness of the compositing procedure.

5.2.3.1.2 Experimental Design and Results--A sediment sample from Huntsville Spring Branch mile 5.4 was composited and eight aliquots were shipped and analyzed for DDTR. The results gave a relative standard deviation of 23 percent at a mean DDTR concentration of 180 µg/g. These results are shown in Table 21.

5.2.3.1.3 Conclusion--The compositing and mixing procedure was judged to be acceptable because replicate aliquots can be withdrawn from composited sediment samples.

5.3 Fish Samples

5.3.1 Intralaboratory Data

5.3.1.1 Quality Control Charts

Intralaboratory Control Charts were plotted for DDTR analysis by SLI as described in section 4.1. There were no "out-of-control" conditions that existed while analyzing fish samples.

5.3.1.2 Reference Samples

During the analysis of fish samples, blind aqueous reference samples supplied by Environmental Resource Associates were inserted into the analytical stream by SLI as described in section 4.2. Since several types of samples were analyzed during one project, along with the reference material, it was

impossible to separate the results from the reference material by the types of samples analyzed. A discussion on the results of the reference material is found in section 5.1.1.2.

5.3.1.3 Blind Split Samples

Intralaboratory blind split samples were analyzed as described in section 4.3. In the initial fish analyses by SLI, 40 blind split analyses were performed. The results are shown in Table 22. Twenty-nine sample pairs yielded valid* relative error results. The average absolute relative error was 61 percent, which is equivalent to an average ratio of 1.88.

As discussed in section 5.3.2.2, it was suspected that for certain days the SLI results may have been significantly biased low. After grouping blind split data into "good day" and "bad day" groups, the average absolute relative errors were 71 and 43 percent respectively. The lower relative error for "bad day" data may have been due to a low bias on these samples which reduced the range of possible variation.

5.3.2 Interlaboratory Data

5.3.2.1 "Pooled" Fish Samples

Two "pooled" fish samples were prepared as directed in section 4.1.4.3. Five aliquots from each "pooled" sample were submitted to both EPA and SLI for analysis. The initial results showed good agreement between EPA and SLI, EPA being about 17 percent higher than STEWART for low DDTR concentration fish, and about 10 percent higher for samples with a higher concentration of DDTR. This data is summarized below:

*Valid relative error results could not be obtained for some sample pairs due to "less than" values (see 4.3.2).

Summary Statistics

	Low Concentration		High Concentration	
	<u>Stewart</u>	<u>EPA</u>	<u>Stewart</u>	<u>EPA</u>
Mean	2.95 ppm	3.48 ppm	317. ppm	350. ppm
Standard Deviation	0.28 ppm	0.38 ppm	24. ppm	39. ppm
Coefficient of Variation	9.4%	10.9%	7.6%	11.2%
Difference (STEWART-EPA)	-0.53 ppm		-33. µg/g	
Relative Difference	-16.6%		-9.8%	

Twenty-three additional high and low concentration "pooled" fish samples were submitted with the routine fish samples as long-term QC samples. These results are shown in Tables 23 through 26 and are plotted in Figures 1 and 2 of Attachment 2. From this data, it appeared that an analytical problem existed during the days of November 29 and December 5, 6, and 7. Data for December 4 and 13 also appeared somewhat questionable. It was first suspected that sample non-homogeneity may have been a problem. A special study was performed to evaluate this (see 5.3.7.2) and it was found that non-homogeneity could not have accounted for the low results observed.

5.3.2.2 Split Samples

Interlaboratory split fish samples were analyzed as directed in section 4.5. The results from 26 split samples are shown in Table 27. Twenty-three sample pairs yielded valid relative error results and showed a mean of -53 percent (EPA 1.72 times SLI). However, data from the "pooled" fish analyses suggested that problems with SLI data may have occurred on certain dates. The data were divided according to dates processed by SLI and it was found that data from November 29 and 30, and December 5 and 6, had an average relative error of -86 percent, whereas

the remaining data had an average relative error of -35 percent. The values are equivalent to EPA/SLI ratios of 2.51 and 1.42. For the suspect data, 7 of 8 samples showed EPA higher than SLI results. For the remaining data, 10 of 15 samples showed EPA results higher than SLI. Based largely on these results, a decision was made to have SLI reanalyze some samples prepared on November 29, and 30, and December 4, 5, 6, and 7 to determine if a more complete reanalysis should be performed.

5.3.3 Initial Fish Reanalysis

Initially 40 samples were selected from fish processed on November 29 and 30 and December 4, 5, 6, and 7 (and inadvertently, one sample from December 12) for reanalysis by SLI. Fifteen of these fish were also analyzed by EPA.

5.3.3.1 Intralaboratory Data

Of the 40 samples, SLI successfully reanalyzed 38. Nine samples from December 4 and the one from December 12 were grouped together and compared to the original SLI values. Average relative error was -4 percent (rerun results slightly higher than original values). These results are shown in Table 28. Based on these results, the December 4 data were accepted and considered "good day" data. Of the remaining samples, 21 yielded results valid for determining differences (see Table 29). Average relative error was -48 percent (rerun values higher), which is equivalent to a rerun/original value ratio of 1.63. Of the 21 samples, 14 increased compared to original values. Based on these results, the original data for November 29 and 30 and December 5, 6, and 7 were not accepted.

During this reanalysis of fish, two blind split samples were analyzed within SLI (Table 30). The mean absolute relative error was 15 percent (average ratio of 1.16).

Of the fish analyzed by EPA, 5 had been analyzed previously. The results of these analyses yielded 4 valid comparisons with an average relative error of 38 percent (original values higher). Three of the 4 samples were lower than original results. The results are shown in Table 31.

5.3.3.2 Interlaboratory Data

Of the 15 samples split with EPA during this initial rerun phase, 11 yielded results valid for determining differences. Average relative error was -20 percent (EPA 1.22 times higher than SLI). For 8 of the 11 samples, EPA was higher. The results are shown in Table 32.

5.3.4 Main Fish Reanalysis

Based on the results of the partial reanalysis discussed above, it was decided to have SLI reanalyze all fish processed on November 29 and 30, and December 5, 6, and 7.

5.3.4.1 Intralaboratory Data

5.3.4.1.1 Quality Control Charts--Intralaboratory Quality Control

Charts were plotted for DDTR analysis by SLI as described in section 4.1. This was done for the reanalysis of the fish samples. There were no out-of-control conditions that existed.

5.3.4.1.2 Reference Samples--During the reanalysis of the fish samples, two blind aqueous reference samples supplied by Environmental Resource Associates were inserted into the analytical stream by SLI, as described in section 4.2. A concentration of

0.25 µg/l was obtained on a certified sample of o,p' DDT, which contained 0.26 µg/l for a percent recovery of 96 percent. A certified sample containing 0.50 µg/l of p,p' DDE was also analyzed and gave a concentration of 0.53 µg/l for a percent recovery of 106 percent.

5.3.4.1.3 "Pooled" Fish Samples--During this reanalysis phase of the work, EPA analyzed 3 additional replicates each of the high and low "pooled" fish samples. The results are shown in Table 33.

5.3.4.1.4 Blind Split Samples--Intralaboratory blind split samples were analyzed as directed in section 4.3. The results from these blind split samples are shown in Table 34. The average absolute relative error is 61 percent which is equivalent to an average ratio of 1.88.

5.3.4.2 Interlaboratory Data

5.3.4.2.1 Split Samples--Interlaboratory split fish samples were analyzed as directed in section 4.5. The results from these split samples are shown in Table 35. The average relative error is -32 percent (EPA 1.38 times higher than SLI). For 7 of 9 samples, EPA was higher than SLI.

5.3.5 Additional Fish Reanalysis

Subsequently, a review of the data showed that little information existed validating the results for samples processed by SLI on December 12. Further, "pooled" fish samples processed by SLI one day later (December 13) showed questionable results. Hence, a group of fish from December 12 was resubmitted for analysis, along with some vertebrate samples processed during that general time period, plus some individual fish samples not previously analyzed. Some samples were split with EPA.

5.3.5.1 Interlaboratory Data

Four fish and 5 vertebrate (nonfish) samples were split between SLI and EPA. Eight valid comparisons resulted with an average relative error of -147 percent (EPA 6.55 times higher than SLI). In all 8 cases, EPA was higher than SLI. The data are shown in Table 36. Based on these results all SLI results for this group of analyses were rejected.

Subsequently, all remaining fish from samples processed by SLI on December 12 were submitted to EPA for analysis. A summary of all comparisons between EPA and SLI data from December 12 samples is shown in Table 37. For 9 samples the average relative error was -102 percent (EPA 3.08 times higher than SLI). For all 9 samples, SLI results were less than EPA. Insufficient fish tissue remained for any further reanalysis.

A decision was made to retain all the December 12 analyzed data in the data set. These data have been identified so that interpretations utilizing this information can be made with the full understanding that it appears to have a significant low bias.

5.3.6 Summary of Fish Data

5.3.6.1 Intralaboratory Data

5.3.6.1.1 Blind Split Samples--All blind split data are shown in Table 38. The original blind split values for samples considered invalid have been dropped. The absolute relative error was 60 percent (average ratio of values was 1.86).

Blind split samples are a good measure of analytical reproducibility. Of particular interest in this case is the range of values that could be expected from a fish sample having a true DDTR concentration of 5 ppm, the FDA standard. This range can be calculated if the variance of the analytical procedure can be determined. Unfortunately, relative error does not produce a variance estimate. Hence, analysis of variance techniques were utilized.

A complicating factor is the selection of a proper data base to use for estimating the variance. For instance, should very low or very high concentration sample pairs be included in the data set? Further, should whole body samples be considered since it appears that within-lab variance for these samples was greater than for filet or composite filet samples? Finally, how should the data be transformed in an effort to counteract the obvious variance increase with concentration?

The transform that appears to be best suited for this data is the natural log of DDTR. To show the effect of data set makeup, several situations were considered. First, all 38 valid blind splits were considered. Second, a culled data set containing only sample pairs with mean DDTR values greater than one and less than fifty was considered. Finally, this same culled data set with further elimination of all whole body samples was evaluated. The results, along with the 95 percent confidence bound around 5 $\mu\text{g/g}$, are shown below:

<u>Data Set</u>	<u>Data Pairs in Set</u>	<u>Variance</u>	<u>95% Confidence Bound Around A True Mean of 5 µg/g DDTR</u>
All valid pairs	38	0.394	1.4 to 17.6 µg/g
Only pairs with mean values >1 and <50	17	0.325	1.6 to 15.6 µg/g
Only pairs with mean values >1 and <50 and excluding all whole body splits	13	0.105	2.6 to 9.6 µg/g

5.3.6.2 Interlaboratory Data

5.3.6.2.1 Split Samples--All split samples utilizing acceptable SLI and EPA data are shown in Table 39. The average relative error was -39 percent (EPA 1.48 times higher than SLI). Of 46 samples, 36 showed EPA values higher than SLI.

With the data for samples analyzed by SLI on December 12 excluded, the average relative error was -24 percent (EPA 1.27 times higher than SLI). Of 37 samples, 27 showed EPA values above SLI. The bias between laboratories was statistically significant at the 95 percent level.

5.3.7 Special Studies

5.3.7.1 DDT Concentration Gradient in Fish Filets

5.3.7.1.1 Objective--It was hypothesized that a DDTR concentration gradient existed in fish tissue. The objective of this study was to determine which portion of fish tissue to select for analysis in order to get a representative sample.

5.3.7.1.2 Experimental Design and Results--A whole filet from a catfish, bass, and buffalo was taken from the fish after it had been skinned. Each filet was measured and cut into four equal

sections based on length. Each of the four sections of muscle was diced and blended to ensure homogeneity, and the DDTR concentration was determined on each section. These data are shown in Table 40.

5.3.7.1.3 Conclusion--These data show that the DDTR concentration could vary from the head end to the tail of a fish; therefore, whole filets from each fish were taken as the sample for the analysis. TVA diced the filet into small pieces and aliquots taken from each diced filet were then blended for the composite sample which was to be analyzed for DDTR concentration. The remainder of the diced filet was used for individual sample analysis.

5.3.7.2 Migration of Lipids Within the "Pooled" Fish Sample

5.3.7.2.1 Objective--During certain periods, extremely low values were obtained for the "pooled" fish samples (see Figures 1 and 2). One explanation for these low values was that since the time of preparation of the "pooled" fish sample, visual changes had occurred within each sample during the packaging and storage of these samples. From the appearance, it looked as if the lipids in the fish had migrated to the periphery of the samples. Because losses of the material from the container was evident as well as the fact that the "pooled" material was not quantitatively transferred from the container, it was proposed that these losses could be significant.

5.3.7.2.2 Experimental Design and Results--To test this hypothesis, both high and low "pooled" fish samples were dissected (see Figure 3) and DDTR analyses performed on each part. This was to determine if the lipids containing the DDTR had migrated to the periphery

of the samples. In addition, "pooled" samples were also analyzed exactly as the original analysis except the DDTR was extracted from the empty containers. The results shown in Table 41 indicate that some migration of lipids had taken place but this migration did not greatly affect the concentration of the DDTR in the "pooled" sample. On five samples, EPA extracted the "empty" containers and analyzed this extract as well as the "pooled" sample. Although they did obtain some high DDTR concentrations (1200 µg/g) on the extraction of the "empty" containers, the weight of this material was very small (~0.05 g) compared to the sample weight of the "pooled" fish (~25 g) and was therefore negligible.

5.3.7.2.3 Conclusion--It is evident both from visual comparison as well as the data from the migration experiment that some migration of lipid material had taken place. These data do not, however, indicate that this migration has rendered the samples useless as a reference material. From the data in this experiment, it was concluded that the "pooled" material was valid and should remain in the quality assurance program report.

5.4 Vertebrate (Excluding Fish) Samples

5.4.1 Intralaboratory Data

5.4.1.1 Quality Control Charts

Intralaboratory control charts were plotted for DDTR analysis by SLI as described in section 4.1. There were no "out-of-control" conditions that existed while analyzing vertebrate samples.

5.4.1.2 Reference Samples

During the analysis of vertebrate samples, blind aqueous reference samples supplied by Environmental Resource Associates were inserted into the analytical stream by SLI as described in section 4.2. Since several types of samples were analyzed during one project, along with the reference material, it was impossible to separate the results from the reference material by the types of samples analyzed. A discussion on the results of the reference material is found in section 5.1.1.2.

5.4.1.3 Blind Split Samples

Intralaboratory blind split samples were analyzed as described in section 4.3. The results from these blind split samples are shown in Table 42. Five of the split samples yielded valid relative error data. The mean absolute relative error was 100 percent (average ratio of 3.0).

5.4.2 Interlaboratory Data

5.4.2.1 Split Samples

Interlaboratory split vertebrate samples were analyzed as directed in section 4.5. The results from these split samples are shown in Table 43. Ten of the split samples yielded valid relative error data. The mean relative error was -120 percent (EPA 4.0 times SLI). For 9 of the 10 sample pairs, EPA values were higher than SLI.

5.5 Aquatic Organisms and Plants

5.5.1 Intralaboratory Data

5.5.1.1 Quality Control Charts

Intralaboratory control charts were plotted for DDTR analysis by SLI as described in section 4.1. There were no

"out-of-control" conditions that existed while analyzing aquatic organism samples.

5.5.1.2 Reference Samples

During the analysis of aquatic organism samples, blind aqueous reference samples supplied by Environmental Resource Associates were inserted into the analytical stream by SLI as described in section 4.2. Since several types of samples were analyzed during one project, along with the reference material, it was impossible to separate the results from the reference material by the types of samples analyzed. A discussion on the results of the reference material is found in section 5.1.1.2.

5.5.1.3 Intralaboratory blind split samples were analyzed as described in section 4.3. Included in this sample group were zooplankton, phytoplankton, aufwuchs, macroinvertebrates, and plants. Phytoplankton DDTR analytical procedures were the same as for water samples and all split sample results were included in section 5.1. Split sample data were available only for macroinvertebrates and plants and are shown in Tables 44 and 45. The mean absolute relative error for macroinvertebrates was 22 percent and for plants, 47 percent. This corresponds to mean sample ratios of 1.25 and 1.61, respectively.

5.5.2 Interlaboratory Data

5.5.2.1 Split Samples

Interlaboratory split samples were analyzed as directed in section 4.5. Included in this sample group were zooplankton, phytoplankton, aufwuchs, macroinvertebrates, and plants. Phytoplankton DDTR analytical procedures were the same as for water samples and all split sample results were included in

6.0 CONCLUSIONS

6.1 Water Samples

The analytical reproducibility of this data appears to be good and is within the interpretative requirements of this study. The agreement between SLI and EPA is acceptable also.

6.2 Sediment Samples

The analytical reproducibility within SLI on the initial samples was excellent, particularly for sediment samples. However, when completely independent samples were removed from the sediment cores, as was done in the "by request" samples, the relative error increased dramatically. This increased variability probably was related to (1) the difficulty in achieving a completely mixed uniform core sample and (2) the time separating the two samplings and analyses. A conservative assumption would be to consider the "by request" sample splits as representative of combined sampling and analytical variability.

Due primarily to the fact that the DDTR concentrations in sediment measured during this study varied over about 5 orders of magnitude, the data are sufficiently reliable for the interpretative requirements of this study.

There may be a slight bias between SLI and EPA but it is not significant as related to the interpretative requirements of this study.

6.3 Fish Samples

The determination of the degree of DDTR contamination of fish in Indian Creek and the Tennessee River was a major goal of

section 5.1. SLI-EPA split sample data were available for macroinvertebrates, aufwuchs, and plants and are shown in Tables 46-48. For macroinvertebrates, three samples had a mean relative error of -51 percent (EPA 1.68 times SLI). For aufwuchs, one sample had a relative error of -34 percent (EPA 1.41 times SLI). For plants, six samples had a mean relative error of -32 percent (EPA 1.38 times SLI).

5.5.3 Special Studies

5.5.3.1 Use of Glass Fiber Filters

5.5.3.1.1 Objective--Because of the small sample sizes of zooplankton, it was necessary to filter the zooplankton samples to obtain sample weights which were used in the calculation of DDTR concentrations. The objective of this study was to determine if DDTR could be measured in zooplankton which had been retained on glass fiber filters.

5.5.3.2 Experimental Design and Results

A spiked water sample was filtered through a glass fiber filter. After filtering, the filter was disintegrated in the filtrate with a polytron blender. The blended filtrate was then analyzed for DDTR, and 82 percent of the original DDTR was recovered without significant interferences.

5.5.3.3 Conclusion

It was agreed by the Corps of Engineers (Diane Finley) on October 31, 1979, that the zooplankton samples from Task 5 could be prepared for DDTR analysis using tared glass fiber filters.

this study. Of particular interest was to determine whether the filet DDTR concentration exceeded 5 $\mu\text{g/g}$. The analytical precision, as measured by blind split samples, indicates that for a single analytical determination on a fish filet having 5 ppm DDTR, one can expect a 95 percent confidence bound of 2.6 to 9.6 ppm. Thus, for filet sample results that fall into this range, one cannot say (with 95 percent confidence) if the true value is above or below 5 ppm.

Analytical results for whole body samples seemed to have an even wider confidence bound.

The split sampler between EPA and SLI showed that the SLI results were biased low compared to EPA. On the average, EPA results are about 1.27 times higher than SLI results. This excludes one group of data generated by SLI where EPA results averaged about 3 times higher than SLI results. All data from this group have been marked in the data tables.

When interpreted in light of the noted limitations, these data provide useful information regarding the degree of DDTR contamination of fish in the study area.

6.4

Vertebrate (Excluding Fish) Samples

The vertebrate sample blind splits indicate significant variability within SLI. Further, the EPA-SLI splits showed the SLI data to be lower on average by about a factor of four as compared to EPA data. Reruns by SLI of some of these samples showed an even more pronounced low bias as compared to EPA. The variability and significantly low bias compromise

the usefulness of this data. However, lack of sufficient sample to allow for complete reanalysis and higher priorities for other samples led to the decision to retain the original results.

6.5 Aquatic Organisms and Plants

The relatively small data base only provides limited information concerning intralaboratory variability. Samples split between SLI and EPA indicate a low bias for SLI as compared to EPA. These factors are not expected to significantly affect the interpretative aspects of this work.

ATTACHMENT 1

TABLES

TABLES

Number

- 1 EPA Intralaboratory Accuracy and Precision Data
- 2 Tabulation of SLI Intralaboratory Blind Aqueous Reference Sample Data
- 3 Summary of TVA Project ID's
- 4 Statistical Summary of SLI Blind Aqueous Reference Sample Data
- 5 Blind Split Total Water Data
- 6 Blind Split Filtered Water Data
- 7 Tabulation of Interlaboratory "Pooled" Water Sample Data
- 8 SLI-EPA Split Water (Total) Data
- 9 SLI-EPA Split Water (Suspended Solids) Data
- 10 SLI-EPA Split Water (Filtered) Data
- 11 Special Study: Use of the Churn Splitter
- 12 Special Study: Use of Cellulose Membrane Filters
- 13 Special Study: Extraction Efficiencies of DDTR from Suspended Solids
- 14 Special Study: Comparison of DDTR Analysis on Total Water by Both
Calculation and Direct Analysis
- 15 Special Study: Filterable DDTR Both With and Without the Addition of
Salt Before Extraction
- 16 Blind Split Sediment Data
- 17 Blind Split Sediment Data (by Request)
- 18 Tabulation of Results from "Pooled" Sediment Samples for DDTR Analysis
- 19 Tabulation of Results from "Pooled" Sediment Samples for Trace Metals
and Particle Size
- 20 SLI-EPA Split Sediment Data
- 21 Results from Special Study to Determine Sediment Compositing Variability
- 22 Original SLI Blind Split Fish Data
- 23 Results of Low Concentration of "Pooled" Fish Sample Analyzed by SLI
- 24 Results of Low Concentration of "Pooled" Fish Sample Analyzed by EPA
- 25 Results of High Concentration of "Pooled" Fish Sample Analyzed by SLI
- 26 Results of High Concentration of "Pooled" Fish Sample Analyzed by EPA
- 27 Original EPA-SLI Split Fish Data
- 28 Initial Fish Reruns Within SLI of "Good Day" Samples
- 29 Initial Fish Reruns Within SLI of "Bad Day" Samples
- 30 SLI Blind Split Fish Data During Initial Rerun Phase
- 31 Fish Reruns Within EPA at Beginning of Rerun Phase
- 32 SLI-EPA Fish Split Data at Beginning of Rerun Phase
- 33 Additional "Pooled" Fish Samples Analyzed During Rerun Period by EPA
- 34 SLI Blind Split Fish Data During Rerun Phase
- 35 SLI-EPA Fish Splits During Main Rerun Phase
- 36 SLI-EPA Split Data for Last Rerun of Fish and Vertebrates by SLI
- 37 SLI-EPA Split Data for Fish Samples Processed December 12, 1979, by SLI
- 38 Consolidated Valid SLI Blind Split Fish Data
- 39 Complete Listing of All SLI-EPA Fish Split Data
- 40 Special Study - DDT Concentration Gradients in Fish Fillets
- 41 Special Study - Migration of Lipids Within the "Pooled" Fish Samples

TABLES (continued)

Number

- 42 SLI Blind Split Vertebrate Data
- 43 SLI-EPA Split Vertebrate Data
- 44 Macroinvertebrate SLI Blind Split Sample Data
- 45 Plant SLI Blind Split Sample Data
- 46 SLI-EPA Split Macroinvertebrate Data
- 47 SLI-EPA Split Aufwuchs Data
- 48 SLI-EPA Split Plant Data

Table 1. EPA Intralaboratory Accuracy and Precision Data

Sample type	DDT		DDD		DDE	
	O,P'	P,P	O,P'	P,P	O,P'	P,P
Fish						
Average % recovery ^a	76	80	55	71	52	61
Average % RSD ^b	37	30	35	26	25	14
Sediment						
Average % recovery	ND ^c	ND	ND	ND	ND	ND
Average % RSD	ND	36	25	37	7.7	37
Water						
Average % recovery	100	110	94	110	100	110
Average % RSD	ND	ND	6.7	8.2	7.2	5.3

^aPercent recovery based on spiked reagent blank analyzed with sample types noted.

^bRSD - Relative standard deviation.

^cRD - No data.

Table 2. Tabulation of SLI Intralaboratory Blind Aqueous
Reference Sample Data

Analyzed with SLI project number	Parameter	ERA Certified value ($\mu\text{g/l}$)	SLI Observed value ($\mu\text{g/l}$)	% Recovery
TVA 09586	O,P' DDE	0.60	0.64	107
	P,P' DDD	0.63	0.58	92.1
TVA 09695	P,P' DDT	0.31	0.28	90.3
	O,P' DDD	0.19	0.19	100
TVA 09746	O,P' DDT	0.26	0.22	84.6
	P,P' DDE	0.50	0.41	82.0
TVA 09784	P,P' DDT	0.31	0.26	84.6
	O,P' DDD	0.19	0.15	78.9
TVA 09853	P,P' DDD	1.3	1.1	84.6
TVA 09833	P,P' DDD	1.3	1.1	84.6
TVA 09746	O,P' DDT	0.31	0.26	83.9
	P,P' DDE	0.19	0.15	78.9
TVA 09993	O,P' DDT	0.26	0.18	69.2
	P,P' DDE	0.50	0.43	86.0
TVA 10021	O,P' DDT	0.55	0.47	85.5
	P,P' DDE	0.42	0.33	78.6
TVA 10054	O,P' DDE	0.60	0.57	95.0
	P,P' DDD	0.63	0.55	87.3
TVA 10055	P,P' DDD	1.3	1.2	92.3
TVA 10067	P,P' DDT	0.31	0.24	77.4
	O,P' DDT	0.19	0.24	126
TVA 10069	O,P' DDE	0.60	0.70	106
	P,P' DDD	0.63	0.71	113
TVA 10102	O,P' DDE	0.60	0.46	76.7
	P,P' DDD	0.63	0.50	79.4
TVA 10103	O,P' DDT	0.26	0.19	73.1
	P,P' DDE	0.50	0.37	74.0
TVA 10105	P,P' DDT	0.31	0.28	90.3
	O,P' DDD	0.19	0.19	100
TVA 10107	P,P' DDD	1.3	1.0	76.9
TVA 10119	P,P' DDT	0.31	0.37	119
	O,P' DDD	0.19	0.17	89.5
TVA 10173	O,P' DDE	0.60	0.52	86.7
	O,P' DDE	0.63	0.51	81.0
TVA 10278	O,P' DDE	0.60	0.55	91.7
	P,P' DDD	0.63	0.70	111
TVA 10383	O,P' DDT	0.26	0.25	96.2
	P,P' DDE	0.50	0.61	122

Table 2 (continued)

Analyzed with SLI project number	Parameter	ERA Certified value ($\mu\text{g/l}$)	SLI Observed value ($\mu\text{g/l}$)	% Recovery
TVA 10384	P,P' DDT	0.31	0.28	90.3
	O,P' DDD	0.19	0.15	78.9
TVA 10393	O,P' DDT	0.26	0.27	104
	P,P' DDE	0.50	0.54	108
TVA 10467	P,P' DDD	1.3	1.4	108
TVA 10633	O,P' DDT	0.26	0.25	96.2
	P,P' DDE	0.50	0.53	106
TVA 10679	P,P' DDT	0.31	0.33	106
and TVA 10680	O,P' DDD	0.19	0.23	121

Table 3. Summary of TVA Project ID's

SLI Project	Sediment	Water	Fish	Matrix Tasks*		
				Zooplankton	Benthos	Vertebrates
TVA 09586	3, 4	3	1			
TVA 09646	4	6				
TVA 09695	4, 6	6				
TVA 09719			IS-12S IA-1E			
TVA 09733						
TVA 09746	4, 6	4, 6				
TVA 09784		5				
TVA 09821		SI-S7				
TVA 09833		6				
TVA 09853	3, 6	6	1			
TVA 09867		5				
TVA 09993	5	5			5	7
TVA 10021			1			
TVA 10054			1			
TVA 10055	4					
TVA 10066	4					
TVA 10067			1, 1M			
TVA 10068		6				
TVA 10069						7
TVA 10102			1			
TVA 10103						7
TVA 10104		4M				
TVA 10105		4M				
TVA 10106	3	3M, 4				

Table 3 (continued)

SLI Project	Matrix Task*				
	Sediment	Water	Fish	Zooplankton Benthos Plants Aufwuch	Vertebrates
TVA 10107			1M, 2M 1		
TVA 10117					
TVA 10118	6				
TVA 10119		3M			
TVA 10133			1		
TVA 10141	4M				
TVA 10142	6				
TVA 10143			1		
TVA 10171			1		
TVA 10172					7
TVA 10173			1		
TVA 10218	4				
TVA 10277			1		
TVA 10278				5	
TVA 10329			1		
TVA 10383	6	6			
TVA 10384			1, 1M (Reanalyzed)		
TVA 10393		6			
TVA 10467	6				
TVA 10633			1, 1M (Reanalyzed)		
TVA 10679		6			
TVA 10680	6				

* Numbers within the table indicate the samples from the various tasks that were analyzed for each SLI project number.

Table 4. Statistical Summary of SLI Blind Aqueous Reference Sample Data

Isomer	Number of observation	Mean recovery (%)	Standard deviation
O,P' DDT	10	91.5	16.3
P,P' DDT	7	94.0	14.0
O,P' DDD	6	94.7	16.0
P,P' DDD	10	92.9	12.5
O,P' DDE	7	92.0	11.6
P,P' DDE	9	93.5	17.1
Total DDTR	49	93.0	14.0

Table 5. Blind Split Total Water Data

TVA LAB ID	Type * sample	DDT (µg/l)		DDD (µg/l)		DDE (µg/l)		Total DDTR (µg/l)	
		O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	Minimum	Maximum
3-027	BLI	<0.040	<0.040	<0.040	<0.040	<0.020	<0.020	0.000	0.100
	ORI	<0.040	<0.040	<0.040	<0.040	<0.020	<0.020	0.000	0.100
3-031	BLI	<0.040	<0.040	<0.040	<0.040	<0.020	<0.020	0.000	0.100
	ORI	<0.040	<0.040	<0.040	<0.040	<0.020	0.020	0.000	0.100
4-036	BLI	<0.080	0.250	0.580	1.350	0.080	0.100	2.26	2.34
	ORI	<0.080	0.330	0.630	1.42	0.100	0.120	2.60	2.68
4-116	BLI	0.320	0.210	2.32	2.26	0.170	0.240	5.52	5.52
	ORI	0.320	0.220	2.10	2.05	0.180	0.240	5.11	5.11
4-124	BLI	3.93	215	83.4	60.7	10.1	15.7	391	391
	ORI	3.88	208	79.7	59.0	10.1	14.6	375	375
6M-03	BLI	0.300	3.80	1.76	3.42	0.310	0.740	10.3	10.3
	ORI	0.370	4.11	1.99	3.80	0.430	0.980	11.7	11.7
6M-09	BLI	0.160	1.37	1.20	2.32	0.280	0.580	5.91	5.91
	ORI	0.200	1.72	1.70	2.65	0.350	0.840	7.46	7.46

* BLI - Blind sample.
ORI - Regular original sample.

Table 6. Blind Split Filtered Water Data

IWA LAB ID	Type * sample	DDT (ug/l)		DDD (-g/l)		DDE (ug/l)		Total DDTR (ug/l)	
		O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	Minimum	Average Maximum
3M-06	BLI	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.200 0.400
	ORI	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.200 0.400
6-011	BLI	<0.080	<0.080	<0.440	0.760	0.090	0.090	1.380	1.460 1.540
	ORI	<0.080	<0.080	<0.510	0.850	0.100	0.100	1.560	1.640 1.720
6-025	BLI	<0.080	<0.080	0.790	1.780	0.130	0.130	2.830	2.870 2.990
	ORI	<0.080	<0.080	0.820	1.820	0.140	0.130	2.910	2.990 3.070
6-074	BLI	0.110	<0.080	1.920	2.790	0.230	0.360	5.410	5.450 5.490
	ORI	0.140	<0.080	2.110	3.370	0.250	0.370	6.240	6.280 6.320
6-078	BLI	<0.080	<0.080	<0.080	0.090	<0.040	<0.040	0.090	0.250 0.410
	ORI	<0.080	<0.080	<0.080	0.080	<0.040	<0.040	0.080	0.240 0.400
6-082	BLI	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.200 0.400
	ORI	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.200 0.400
6-088	BLI	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.200 0.400
	ORI	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.200 0.400
6-111	BLI	<0.080	<0.080	0.630	1.020	0.130	0.220	2.000	2.080 2.160
	ORI	<0.080	<0.080	0.540	0.900	0.110	0.200	1.750	1.830 1.910
6-127	BLI	<0.080	<0.080	0.890	1.660	0.120	0.190	2.860	2.940 3.020
	ORI	<0.080	<0.080	0.820	1.660	0.120	0.180	2.780	2.860 2.940
6-137	BLI	<0.080	<0.080	0.640	1.030	0.050	0.100	1.820	1.900 1.980
	ORI	<0.080	<0.080	0.620	1.020	0.070	0.090	1.800	1.880 1.960
6-158	BLI	<0.080	<0.080	0.870	1.180	0.110	0.210	2.370	2.450 2.530
	ORI	<0.080	<0.080	0.890	1.140	0.110	0.220	2.360	2.44 2.52
6-170	BLI	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.200 0.400
	ORI	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.200 0.400
6-182	BLI	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.200 0.400
	ORI	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.200 0.400
6-214	BLI	<0.080	<0.080	0.350	0.640	0.070	0.130	1.190	1.270 1.350
	ORI	<0.080	<0.080	0.420	0.760	0.080	0.140	1.400	1.480 1.560
6-222	BLI	<0.080	<0.080	0.580	1.080	0.070	0.100	1.830	1.910 1.990
	ORI	<0.080	<0.080	0.630	2.730	0.080	0.110	3.550	3.630 3.710
6-269	BLI	<0.080	<0.080	0.290	0.520	0.040	0.060	0.910	0.990 1.070
	ORI	<0.080	<0.080	0.360	0.640	0.040	0.080	1.120	1.200 1.280

Table 6 (continued)

TVA LAB ID	Type * Sample	DDT (µg/l)		DDD (µg/l)		DDE (µg/l)		Total DDTR (µg/l)	
		O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	Minimum	Average
6-279	BLI	<0.080	<0.080	0.450	0.680	0.090	0.100	1.320	1.400
	ORI	<0.080	<0.080	0.450	0.890	0.060	0.080	1.480	1.560
6-289	BLI	<0.080	<0.080	0.850	1.650	0.140	0.210	2.850	2.930
	ORI	<0.080	<0.080	0.820	1.000	0.150	0.210	2.180	2.260
6-404	BLI	<0.100	<0.100	0.700	1.250	0.460	0.320	2.730	2.830
	ORI	<0.100	<0.100	0.920	1.390	0.500	0.370	3.180	3.280
6-414	BLI	<0.100	<0.100	0.620	0.820	<0.100	0.100	1.540	1.690
	ORI	<0.100	<0.100	0.420	0.820	<0.100	<0.100	1.240	1.440
6-428	BLI	<0.100	<0.100	0.370	0.590	<0.100	<0.100	0.960	1.160
	ORI	<0.100	<0.100	0.440	0.990	<0.100	<0.100	1.430	1.630
6-438	BLI	<0.100	<0.100	0.650	0.960	<0.100	<0.100	1.610	1.810
	ORI	<0.100	<0.100	0.630	0.750	<0.100	<0.100	1.380	1.580
6-448	BLI	0.100	<0.100	<0.670	0.890	0.100	0.100	1.560	1.760
	ORI	<0.100	<0.100	0.510	0.820	<0.100	<0.100	1.330	1.530
6-456	BLI	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	0.000	0.300
	ORI	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	0.000	0.300
6-466	BLI	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	0.000	0.300
	ORI	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	0.000	0.300
6M-06	BLI	0.060	0.070	0.930	1.500	0.170	0.290	3.020	3.020
	ORI	0.050	0.040	0.850	1.310	0.150	0.200	2.600	2.600
6M-13	BLI	0.070	0.250	0.950	1.250	0.110	0.160	2.790	2.790
	ORI	0.080	0.310	1.080	1.410	0.150	0.210	3.240	3.240

Table 6 (continued)

TVA LAB ID	Type* sample	DDT (µg/l)		DDD (µg/l)		DDE (µg/l)		Total DDTR (µg/l)	
		O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	Minimum	Average Maximum
6M-30	BLI	<0.020	<0.030	0.190	0.320	0.030	0.050	0.590	0.615 0.640
	ORI	<0.020	<0.030	0.210	0.360	0.030	0.050	0.650	0.700
6M-46	BLI	0.050	0.100	0.480	0.810	0.090	0.140	1.670	1.670
	ORI	0.030	0.040	0.490	0.760	0.080	0.160	1.560	1.560
6M-56	BLI	<0.020	0.050	0.250	0.430	0.040	0.070	0.840	0.860
	ORI	0.030	0.070	0.290	0.430	0.040	0.070	0.930	0.930
6M-78	BLI	<0.020	<0.030	<0.010	0.030	<0.010	<0.010	0.030	0.070 0.110
	ORI	<0.020	<0.030	<0.010	0.030	<0.010	<0.010	0.030	0.070 0.110
7-028	BLI	<0.020	0.040	0.251	0.494	0.060	0.101	0.946	0.966
	ORI	<0.030	0.040	0.285	0.481	0.060	0.117	0.983	1.013
7-052	BLI	<0.030	0.070	0.257	0.451	0.060	0.100	0.938	0.968
	ORI	<0.030	0.050	0.301	0.508	0.060	0.108	1.027	1.042 1.057
7-072	BLI	<0.020	<0.030	<0.010	0.010	<0.010	<0.010	0.010	0.050 0.090
	ORI	<0.020	<0.030	<0.010	0.010	<0.010	<0.010	0.010	0.050 0.090
7-090	BLI	0.020	0.030	0.199	0.478	0.050	0.070	0.847	0.847
	ORI	<0.020	0.030	0.221	0.420	0.050	0.105	0.826	0.846
7-116	BLI	<0.020	<0.030	0.187	0.426	0.050	0.060	0.723	0.773
	ORI	<0.020	<0.030	0.185	0.365	0.050	0.070	0.670	0.720
7-146	BLI	<0.040	<0.050	0.100	0.227	0.030	0.060	0.417	0.507
	ORI	<0.020	0.030	0.122	0.256	0.040	0.050	0.498	0.518
7-166	BLI	<0.040	<0.050	0.122	0.238	0.030	<0.020	0.390	0.500
	ORI	<0.040	<0.050	0.137	0.249	0.030	0.050	0.466	0.556

* BLI - Blind sample.

ORI - Regular original sample.

Table 7. Tabulation of Interlaboratory "Pooled" Water Sample Data

TVA LAB ID	Lab	DDT (µg/l)		DDD (µg/l)		DDE (µg/l)		Total DDTR (min) (µg/l)
		O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	
S-IRR	SLI	5.00	5.44	<0.2	3.98	3.13	3.41	21.0
S-6RR	SLI	3.80	3.70	0.09	3.70	2.70	3.20	17.2
S-7RR	SLI	2.74	3.63	<0.2	3.17	2.86	2.58	15.0
S-8RR	SLI	2.58	3.12	<0.2	2.80	2.04	2.26	12.8
S-9RR	SLI	3.10	3.70	<0.2	3.40	2.25	2.65	15.1
S-10RR	EPA	2.60	2.50	<0.6	2.70	2.50	2.10	12.4
S-11RR	EPA	2.40	2.40	<0.6	2.90	2.40	2.00	12.1
S-12RR	EPA	2.90	3.30	<0.1	3.30	2.80	2.50	14.8
S-13RR	EPA	3.70	3.90	<0.7	4.10	3.50	3.30	18.5
S-14RR	SLI	3.12	3.59	<0.2	3.36	2.54	2.81	15.4
S-15RR	SLI	2.41	2.93	<0.2	2.72	1.98	2.13	12.2
S-16RR	SLI	2.93	3.27	<0.2	3.18	2.16	2.96	14.5
S-17RR	SLI*	3.83	4.23	<0.2	3.91	2.79	3.28	18.0
S-18RR	SLI*	4.38	4.81	<0.2	4.30	3.16	3.51	20.2
S-19RR	SLI*	3.91	4.23	<0.2	3.72	2.79	3.15	17.8
S-20RR	SLI*	4.58	4.99	<0.2	4.49	3.34	4.01	21.4
S-21RR	EPA	3.30	3.60	<0.3	3.80	3.10	2.90	16.7
S-22RR	EPA	3.50	3.70	<0.3	3.80	3.30	3.10	17.4
S-23RR	EPA*	4.40	4.70	0.077	5.00	4.30	3.80	22.3
S-24RR	EPA*	4.00	4.30	0.042	4.40	4.00	3.60	20.3
S-25RR	SLI*	4.45	4.65	0.110	4.31	3.24	3.77	20.5
S-26RR	SLI*	4.66	4.80	0.11	4.55	3.37	3.90	21.4
S-27RR	SLI*	4.06	4.24	0.13	4.17	2.90	3.36	18.9

* Analytical procedure changed to include the addition of salt before extraction.

Table 8. SLI-EPA Split Water (Total) Data

TVA LAB ID	Lab	DDT (µg/l)		DDD (µg/l)		DDE (µg/l)		Total DDTR (µg/l)		
		O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	Min	Avg	Max
3-002	EPA	<0.080	<0.080	<0.030	<0.030	<0.020	<0.020	0.000	0.130	0.260
	SLI	<0.040	<0.040	<0.040	<0.040	<0.020	<0.020	0.000	0.100	0.200
3-004	EPA	<0.008	<0.008	<0.003	<0.003	<0.002	<0.002	0.000	0.013	0.026
	SLI	<0.040	<0.040	<0.040	<0.040	<0.020	<0.020	0.000	0.100	0.200
3M-02	EPA	<0.050	0.180	<0.100	<0.400	<0.050	<0.100	0.180	0.530	0.880
	SLI	<0.080	0.280	<0.080	0.097	<0.040	<0.040	0.377	0.499	0.617
3M-04	EPA	<0.030	0.021	<0.100	<0.400	<0.050	0.100	0.021	0.361	0.701
	SLI	<0.080	<0.080	<0.080	<0.080	<0.040	0.040	0.000	0.200	0.400
3M-06	EPA	<0.050	0.071	<0.100	<0.400	<0.050	<0.100	0.071	0.421	0.771
	SLI	<0.080	0.230	<0.080	0.053	<0.040	<0.040	0.283	0.403	0.523
3M-09	EPA	<0.020	0.076	<0.100	<0.400	<0.050	<0.100	0.076	0.411	0.746
	SLI	<0.080	0.120	<0.080	<0.080	<0.040	<0.040	0.120	0.280	0.440
5-170	EPA	<0.050	0.200	<0.100	<0.400	<0.050	<0.100	0.200	0.550	0.900
	SLI	0.051	0.20	0.041	0.041	0.041	0.020	0.394	0.394	0.394
6-011	EPA	0.170	1.70	2.40	7.30	0.890	1.30	13.8	13.8	13.8
	SLI	<0.080	0.960	1.120	3.66	0.490	0.88	7.11	7.15	7.19
6-013	EPA	0.160	1.20	2.30	6.80	0.920	1.30	12.78	12.78	12.78
	SLI	<0.080	0.900	1.940	3.42	0.500	0.88	7.64	7.68	7.72
6-017	EPA	0.150	0.220	2.40	6.40	0.720	0.890	10.8	10.8	10.8
	SLI	0.090	0.250	1.58	2.84	0.340	0.470	5.57	5.57	5.57
6-033	EPA	<0.040	<0.500	0.044	0.067	0.009	0.019	0.139	0.409	0.679
	SLI	0.370	1.62	4.66	6.47	0.730	1.45	15.3	15.3	15.3
6-078	EPA	0.021	<0.050	0.024	0.097	<0.030	0.011	0.153	0.193	0.233
	SLI	<0.080	<0.080	<0.080	0.080	<0.040	<0.040	0.080	0.240	0.400
6-103	EPA	<0.400	2.20	2.50	5.70	1.20	1.60	13.2	13.4	13.6
	SLI	0.170	4.03	4.64	8.79	1.16	2.09	20.9	20.9	20.9
6-125	EPA	<0.300	2.30	2.30	4.40	0.680	1.30	11.0	11.2	11.3
	SLI	<0.090	1.47	2.44	4.61	0.430	1.14	10.1	10.2	10.2
6-139	EPA	<0.600	4.00	3.60	6.90	1.30	1.80	17.6	17.9	18.2
	SLI	0.430	5.10	3.11	5.30	0.550	1.22	15.7	15.7	15.7
6-156	EPA	<0.300	1.10	1.10	2.10	0.300	0.500	5.10	5.25	5.40
	SLI	0.100	1.30	1.24	1.79	0.180	0.430	5.04	5.04	5.04
6-172	EPA	<0.010	<0.010	<0.009	<0.009	<0.008	<0.008	0.000	0.027	0.054
	SLI	<0.080	<0.080	<0.080	<0.040	<0.040	0.040	0.000	0.200	0.400
6-212	EPA	<0.300	0.280	1.10	2.30	0.420	0.600	4.70	4.85	5.00
	SLI	<0.080	0.400	1.03	1.96	0.280	0.480	4.15	4.19	4.23
6-222	EPA	0.300	2.80	2.20	5.90	0.720	1.10	12.7	12.9	13.0
	SLI	0.100	1.29	1.12	3.13	0.380	0.500	6.52	6.52	6.52
6-230	EPA	0.360	1.80	4.40	7.10	0.980	2.00	16.6	16.6	16.6
	SLI	0.440	2.86	3.19	6.7	0.900	1.36	15.4	15.4	15.4

Table 8 (continued)

TVA LAB ID	Lab	DDT (µg/l)		DDD (µg/l)		DDE (µg/l)		Total DDTR (µg/l)		
		O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	Min	Avg	Max
6-251	EPA	<0.300	<0.300	<0.200	<0.200	<0.100	<0.100	0.000	0.600	1.20
	SLI	<0.080	<0.080	<0.080	<0.080	<0.40	<0.040	0.000	0.200	0.400
6-259	EPA	<0.300	<0.300	<0.200	<0.200	<0.100	<0.100	0.000	0.600	1.20
	SLI	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.200	0.400
6-267	EPA	<0.300	0.300	1.50	3.40	0.560	1.00	6.76	6.81	7.06
	SLI	<0.080	1.36	1.630	2.330	0.560	0.810	5.69	6.73	6.77
6-277	EPA	<0.300	6.30	2.00	5.20	0.690	1.30	15.5	15.6	15.8
	SLI	0.190	3.52	1.89	2.81	0.410	1.00	9.82	9.82	9.82
6-287	EPA	<0.300	1.30	1.70	3.40	0.380	0.740	7.52	7.67	7.82
	SLI	0.250	0.930	2.04	2.77	0.300	0.490	6.78	6.78	6.78
6-412	EPA	<0.100	0.130	0.640	1.20	0.160	0.210	2.34	2.39	2.44
	SLI	<0.100	0.330	0.700	1.20	0.190	0.290	2.71	2.76	2.81
6-434	EPA	0.061	0.460	0.560	1.10	0.140	0.220	2.54	2.54	2.54
	SLI	<0.100	0.830	0.700	1.31	0.280	0.300	3.42	3.47	3.52
6-442	EPA	0.180	1.20	1.00	1.90	0.240	0.460	4.98	4.98	4.98
	SLI	<0.100	0.41	0.890	1.43	0.740	0.320	3.89	3.94	3.99
6-466	EPA	<0.050	<0.050	<0.100	<0.400	<0.050	<0.200	0.000	0.425	0.850
	SLI	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	0.000	0.300	0.600
6M-01	EPA	<0.300	<0.600	0.880	1.60	0.240	0.350	3.07	3.52	3.97
	SLI	0.200	0.260	1.30	2.11	0.270	0.540	4.68	4.68	4.68
6M-02	EPA	<0.400	1.400	1.700	3.20	0.470	0.720	7.49	7.49	7.49
	SLI	0.200	2.99	2.26	4.28	0.450	1.01	11.2	11.2	11.2
6M-03	EPA	0.220	2.40	1.30	2.70	0.360	0.600	7.58	7.58	7.58
	SLI	0.360	4.10	1.98	3.80	0.430	0.980	11.6	11.6	11.6
6M-04	EPA	<0.200	<0.400	<0.100	<0.100	<0.100	<0.100	0.000	0.500	1.00
	SLI	<0.060	<0.060	0.100	0.180	0.030	0.020	0.330	0.390	0.450
5-001A	EPA	<0.300	<0.300	1.30	2.80	0.310	0.520	4.93	5.23	5.53
	SLI	<0.080	0.090	1.12	2.26	0.220	0.360	4.05	4.09	4.13
5-002A	EPA	<0.400	<0.400	0.750	1.50	0.190	0.270	2.71	3.11	3.51
	SLI	<0.080	<0.080	0.710	1.10	0.130	0.210	2.15	2.23	2.31
5-015A	EPA	<0.300	<0.300	<0.200	<0.200	<0.100	<0.100	0.000	0.600	1.20
	SLI	<0.080	<0.080	<0.080	0.090	<0.040	<0.040	0.090	0.250	0.410
5-018A	EPA	<0.200	0.270	3.50	5.10	0.710	1.40	11.0	11.1	11.2
	SLI	0.470	0.210	3.46	6.44	0.500	1.60	12.7	12.7	12.7
5-032A	EPA	<0.400	<0.400	<0.200	<0.200	<0.100	<0.100	0.00	0.700	1.40
	SLI	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.200	0.400
5-033A	EPA	<0.400	<0.400	<0.200	<0.200	<0.100	<0.100	0.000	0.700	1.40
	SLI	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.200	0.400
5-034B	EPA	<0.400	<0.400	<0.200	<0.200	<0.100	<0.100	0.000	0.700	1.40
	SLI	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.200	0.400

Table 9. SLI-EPA Split Water (Suspended Solids) Data

TVA LAB ID	Lab	DDT (µg/l)		DDD (µg/l)		DDE (µg/l)		Min	Total DDTR (µg/l)	
		O,P'	P,P'	O,P'	P,P'	O,P'	P,P'		Avg	Max
6M-01	EPA	<0.233	<0.350	0.360	0.700	0.157	0.262	1.48	1.37	2.06
	SLI	<0.094	0.196	0.456	0.788	0.131	0.326	1.90	1.94	1.99
6M-02	EPA	<0.248	1.69	0.930	2.19	0.390	0.761	5.97	6.09	6.22
	SLI	0.198	2.74	1.20	2.95	0.379	0.926	8.33	8.33	8.33
6M-03	EPA	<0.212	2.26	0.680	1.91	0.262	0.552	5.6	5.77	5.88
	SLI	0.172	2.50	0.965	2.49	0.292	0.767	7.18	7.18	7.18
6M-04	EPA	<0.227	<0.378	<0.150	<0.150	0.113	0.076	0.000	0.547	1.09
	SLI	<0.090	<0.126	<0.054	<0.036	0.036	0.036	0.000	0.189	0.378
6M-22	EPA	<0.051	0.085	0.160	0.310	0.072	0.133	0.760	0.785	0.811
	SLI	0.024	0.159	0.241	0.327	0.072	0.170	0.993	0.993	0.993
6M-38	EPA	<0.054	0.094	0.160	0.300	0.067	0.124	0.745	0.772	0.799
	SLI	<0.015	0.367	0.274	0.355	0.090	0.190	1.28	1.28	1.29
6M-42	EPA	0.048	0.332	0.230	0.530	0.097	0.198	1.64	1.64	1.64
	SLI	0.063	0.638	0.426	0.627	0.143	0.315	2.21	2.21	2.21
6M-60	EPA	0.072	1.00	0.300	0.670	0.124	0.258	2.43	2.43	2.43
	SLI	0.100	0.910	0.492	0.852	0.166	0.357	2.88	2.88	2.88
6M-66	EPA	0.046	0.083	0.110	0.220	0.044	0.090	0.593	0.593	0.593
	SLI	0.022	0.408	0.175	0.276	0.053	0.125	1.06	1.06	1.06
6M-74	EPA	0.035	0.040	0.020	0.040	0.016	0.010	0.161	0.161	0.161
	SLI	<0.050	<0.060	<0.040	0.060	<0.040	0.030	0.090	0.185	0.280
6M-82	EPA	<0.049	<0.081	<0.032	<0.032	<0.016	<0.016	0.000	0.113	0.226
	SLI	<0.016	<0.018	<0.020	<0.020	<0.011	<0.011	0.000	0.040	0.080
67-38	EPA	0.14	1.80	0.34	1.1	0.150	0.450	3.98	3.98	3.98
	SLI	<0.05	1.33	0.41	1.06	0.13	0.37	3.30	3.32	3.35
67-40	EPA	0.078	0.630	0.200	0.650	0.100	0.230	1.89	2.89	2.89
	SLI	<0.05	0.77	0.24	0.71	0.08	0.25	2.06	2.08	2.11
67-42	EPA	0.084	1.30	0.210	0.690	0.110	0.250	2.64	2.64	2.64
	SLI	<0.05	1.02	0.22	0.48	0.10	0.25	2.07	2.10	2.12

Table 9 (continued)

TVA LAB ID	Lab	DDT (µg/l)		DDD (µg/l)		DDE (-g/l)		P,P'	Min	Total DDTR (µg/l)	
		O,P'	P,P'	O,P'	P,P'	O,P'	P,P'			Avg	Max
67-44	EPA	0.061	0.980	0.200	0.570	0.110	0.240		2.16	2.16	2.16
	SLI	<0.05	0.50	0.23	0.60	0.07	0.23		1.62	1.65	1.68
67-46	EPA	0.090	1.60	0.250	0.690	0.120	0.290		3.04	3.04	3.04
	SLI	<0.05	1.52	0.24	0.70	0.08	0.27		2.81	2.84	2.86
67-48	EPA	0.061	1.20	0.210	0.930	0.110	0.260		2.77	2.77	2.77
	SLI	<0.05	1.34	0.21	0.76	0.07	0.24		2.62	2.64	2.67
67-50	EPA	0.050	0.810	0.180	0.650	0.100	0.220		2.01	2.01	2.01
	SLI	<0.05	0.97	0.20	0.57	0.08	0.26		2.09	2.12	2.14
67-52	EPA	0.047	0.620	0.180	0.760	0.100	0.230		1.94	1.94	1.94
	SLI	<0.06	0.62	0.20	0.68	0.06	0.21		1.77	1.80	1.83
67-54	EPA	0.039	0.710	0.150	0.730	0.089	0.180		1.90	1.90	1.90
	SLI	<0.05	0.022	0.18	0.31	0.05	0.20		0.97	0.99	1.01
67-56	EPA	0.033	0.390	0.130	0.370	0.073	0.150		1.15	1.15	1.15
	SLI	<0.06	0.42	0.14	0.32	0.05	0.16		1.08	1.11	1.14

Table 10. SLI-EPA Split Water (Filtered) Data

TVA LAB ID	Lab	DDT (µg/l)		DDD (µg/l)		DDE (µg/l)		Total DDTR (µg/l)		
		O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	Min	Avg	Max
3M-02	EPA	<0.005	0.057	<0.100	<0.400	<0.050	<0.100	0.057	0.384	0.712
	SLI	<0.080	<0.080	<0.080	0.086	<0.040	<0.040	0.086	0.246	0.406
3M-04	EPA	<0.020	0.013	<0.100	0.400	<0.050	<0.100	0.013	0.348	0.683
	SLI	<0.080	<0.080	<0.080	0.80	<0.040	<0.040	0.000	0.200	0.400
3M-06	EPA	<0.020	<0.020	<0.100	<0.400	<0.050	<0.100	0.000	0.345	0.690
	SLI	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.200	0.400
3M-09	EPA	<0.020	0.028	<0.100	0.400	<0.050	<0.100	0.028	0.363	0.698
	SLI	<0.080	<0.080	<0.080	0.080	<0.040	<0.040	0.000	0.200	0.400
5-016A	EPA	<0.300	<0.300	<0.200	0.220	<0.100	<0.100	0.220	0.720	1.22
	SLI	<0.080	<0.080	0.120	0.220	0.040	0.040	0.380	0.480	0.580
5-017A	EPA	<0.300	<0.300	0.990	2.00	0.140	0.130	3.26	3.56	3.86
	SLI	<0.080	<0.080	0.900	1.58	<0.090	0.110	2.59	2.72	2.84
6M-01	EPA	<0.200	<0.400	0.450	<0.800	<0.080	0.084	0.534	1.27	2.01
	SLI	0.150	0.070	0.730	1.37	0.170	0.130	2.62	2.62	2.62
6M-02	EPA	<0.200	<0.400	0.780	1.30	0.150	0.170	2.40	2.70	3.00
	SLI	0.140	0.080	1.27	2.41	0.170	0.240	4.31	4.31	4.31
6M-03	EPA	<0.200	<0.400	0.790	1.30	<0.200	0.220	2.31	2.71	3.11
	SLI	0.140	0.080	1.03	1.84	0.160	0.240	3.49	3.49	3.49
6M-04	EPA	<0.200	<0.400	<0.100	<0.100	<0.100	<0.100	0.000	0.500	1.00
	SLI	<0.060	<0.060	0.060	0.180	<0.020	<0.020	0.240	0.320	0.400
6M-22	EPA	<0.040	<0.080	0.470	0.840	0.093	0.087	1.49	1.55	1.61
	SLI	0.040	0.090	0.570	0.850	0.090	0.130	1.77	1.77	1.77
6M-38	EPA	<0.030	<0.080	0.360	0.630	0.071	0.074	1.14	1.24	1.24
	SLI	0.020	<0.030	0.480	0.740	0.070	0.110	1.42	1.44	1.45
6M-42	EPA	<0.050	0.079	0.470	0.790	0.100	0.120	1.56	1.58	1.61
	SLI	0.030	0.050	0.510	0.770	0.080	0.130	1.57	1.57	1.57
6M-60	EPA	<0.110	<0.200	0.370	0.600	0.085	0.089	1.14	1.30	1.45
	SLI	0.020	0.040	0.340	0.510	0.050	0.090	1.05	1.05	1.05
6M-66	EPA	<0.050	<0.080	0.210	0.320	0.050	0.051	0.631	0.696	0.761
	SLI	<0.020	<0.030	0.110	0.170	0.020	0.020	0.320	0.345	0.370
6M-74	EPA	<0.050	<0.080	<0.030	<0.030	<0.020	0.020	0.000	0.115	0.230
	SLI	<0.020	<0.030	0.030	0.090	<0.010	0.010	0.120	0.147	0.190
6M-82	EPA	<0.050	<0.080	<0.030	<0.030	<0.020	<0.020	0.000	0.115	0.230
	SLI	<0.020	<0.030	<0.010	0.040	<0.010	<0.010	0.040	0.080	0.120
67-38	EPA	0.047	0.120	0.390	0.580	0.071	0.120	1.33	1.33	1.33
	SLI	0.030	0.090	0.380	0.690	0.070	0.110	1.37	1.37	1.37
67-40	EPA	0.064	0.060	0.280	0.450	0.053	0.073	0.980	0.980	0.980
	SLI	0.020	0.060	0.280	0.480	0.050	0.080	0.970	0.970	0.970
67-42	EPA	0.047	0.051	0.300	0.450	0.060	0.100	1.01	1.01	1.01
	SLI	0.020	0.050	0.290	0.500	0.060	0.090	1.01	1.01	1.01
67-44	EPA	0.028	0.058	0.250	0.380	0.053	0.070	0.839	0.839	0.839
	SLI	0.020	0.070	0.260	0.460	0.050	0.090	0.950	0.950	0.950

Table 10 (continued)

TVA LAB ID	Lab	DDT (µg/l)		DDD (µg/l)		DDE (µg/l)		Total DDTR (µg/l)		
		O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	Min	Avg	Max
67-46	EPA	0.028	0.110	0.220	0.340	0.047	0.062	0.807	0.807	0.807
	SLI	0.020	0.080	0.230	0.400	0.050	0.080	0.860	0.860	0.860
67-48	EPA	0.027	0.081	0.250	0.380	0.050	0.070	0.858	0.858	0.858
	SLI	0.020	0.060	0.280	0.490	0.060	0.100	1.01	1.01	1.01
67-50	EPA	0.023	0.068	0.250	0.380	0.053	0.058	0.832	0.832	0.832
	SLI	0.010	0.100	0.230	0.450	0.050	0.080	0.920	0.920	0.920
67-52	EPA	0.028	0.043	0.280	0.420	0.055	0.062	0.888	0.888	0.888
	SLI	<0.020	0.050	0.300	0.510	0.060	0.110	1.03	1.04	1.05
67-54	EPA	0.023	0.033	0.240	0.420	0.053	0.070	0.839	0.839	0.839
	SLI	<0.020	0.030	0.220	0.350	0.050	0.070	0.720	0.730	0.740
67-56	EPA	0.021	<0.030	0.200	0.290	0.044	0.048	0.603	0.618	0.633
	SLI	<0.020	<0.030	0.220	0.340	0.050	0.070	0.680	0.705	0.730
5-001A	EPA	<0.700	<0.700	0.560	1.00	<0.200	<0.200	1.56	2.46	3.36
	SLI	<0.080	<0.080	0.570	1.07	0.070	0.090	1.80	1.88	1.96
5-002A	EPA	<0.400	<0.400	0.470	0.840	<0.100	<0.100	1.31	1.81	2.31
	SLI	<0.080	<0.080	0.420	0.780	0.040	0.060	1.30	1.39	1.46
5-015A	EPA	<0.300	<0.300	<0.200	<0.200	<0.100	0.100	0.000	0.600	1.20
	SLI	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.200	0.400
5-018A	EPA	<0.030	<0.030	1.50	3.20	0.220	0.370	5.29	5.32	5.35
	SLI	0.120	<0.080	1.53	2.74	0.160	0.280	4.83	4.87	4.91
5-033B	EPA	<0.700	<0.700	<0.400	<0.400	<0.200	<0.200	0.000	1.30	2.60
	SLI	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.200	0.400

Table 11. Special Study: Use of the Churn Splitter

TVA LAB ID	Nonfilterable residue ^a (µg/l)	DDT (µg/l)		DDD (µg/l)		DDE (µg/l)		Total DDTR ^b (µg/l)
		O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	
DDT 6-58	53	0.28	2.52	4.04	6.59	0.68	1.26	15.4
DDT 6-59	50	0.28	3.15	4.12	6.80	0.65	1.42	16.4
DDT 6-60	50	0.28	1.71	3.68	5.83	0.62	1.33	13.5
DDT 6-61	51	0.31	2.83	3.62	5.78	0.63	1.20	14.4
DDT 6-62	51	0.29	2.64	3.71	6.05	0.64	1.27	14.6
DDT 6-63	50	0.32	2.20	3.96	6.44	0.69	1.29	14.9
DDT 6-64	51	0.28	2.54	3.70	6.18	0.59	1.19	14.5
Mean	50.9	0.29	2.51	3.83	6.24	0.64	1.28	14.8
Standard deviation	1.07	0.02	0.46	0.20	0.39	0.03	0.08	0.90
% RSD ^c	2.1	5.8	18.3	5.3	6.2	5.4	6.2	6.1

^a Analysis performed by TVA Laboratory Branch.

^b Analysis performed by SLI.

^c RSD - Relative standard deviation.

Table 12. Special Study: Use of Cellulose Membrane Filters

Isomer	Concentration before filtration ($\mu\text{g/l}$)	Concentration after filtration ($\mu\text{g/l}$)	% Recovery ^a
O,P' DDT	5.00	1.10	22.0
P,P' DDT	5.44 _b	1.00	18.4
O,P' DDD	ND	ND	-
P,P' DDD	3.98	2.23	56.0
O,P' DDE	3.13	0.65	20.8
P,P' DDE	<u>3.41</u>	<u>0.28</u>	<u>8.2</u>
Total DDTR	21.0	5.26	25.0

^a All analysis performed by SL1.

^b ND - not detected.

Table 13. Special Study: Extraction Efficiencies of DDTR from Suspended Solids

Matrix	Suspended Solids (mg/L)	DDT		% Recovery DDD		DDE		Total DDTR**
		O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	
Deionized water	73	*	33.7	54.4	59.3	42.5	31.1	43.7
	370	*	70.0	50.4	54.1	32.7	28.6	45.9
	3700	57.1	72.1	51.5	57.1	31.1	28.2	47.4
Native water	73	*	35.1	13.8	37.0	23.5	16.5	25.3
	370	*	69.3	46.3	51.7	29.7	25.9	43.4
	3700	44.1	67.9	56.5	60.5	35.0	31.7	49.7

* Below detection limit.

** All analysis performed by SLI.

Table 14. Special Study: Comparison of DDTR Analysis on Total Water by Both Calculation and Direct Analysis

TVA LAB ID	Location	Date collected	Nonfilterable* residue (µg/l)	Filt. DDTR (µg/l) (with salt)	Suspended DDTR (µg/l)	Total DDTR calc. (µg/l)	Total DDTR** analyzed (µg/l) (without salt)	Ratio (total calc.) total analyzed
6M-1	ICM 0.9	1/18/80	57	2.62	1.90	4.52	4.68	0.97
6M-2	IC at Centerline Rd.	1/18/80	84	4.31	8.33	12.64	11.2	1.13
6M-3	HSB at Dodd Rd.	1/18/80	80	3.49	7.18	10.67	11.6	0.92
6M-4	HSB at Patton Rd.	1/18/80	42	0.24	<0.04	-	0.33	-
6M-5	ICM 0.9	1/18/80	54	1.52	1.44	2.96	3.04	0.97
6M-6	ICM 0.9	1/18/80	44	2.60	1.05	3.65	3.36	1.09
6M-7	ICM 0.9	1/19/80	63	2.39	2.11	4.50	3.58	1.26
6M-8	ICM 0.9	1/19/80	54	1.58	1.62	3.20	2.15	1.49
6M-9	IC at Centerline Rd.	1/18/80	110	3.01	4.78	7.79	7.46	1.04
6M-10	IC at Centerline Rd.	1/18/80	100	3.99	8.34	12.33	8.44	1.46
Average								1.15

* Analysis performed by Laboratory Branch (TVA).

**All analysis performed by SLI.

Table 15. Special Study: Filterable DDTR Both With and Without the Addition of Salt Before Extraction

TVA LAB ID	Sample location	Date collected	With or without salt addition	Filterable DDTR (µg/l)						Total*
				DDT		DDD		DDF		
				O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	
6M-1	Indian Creek Mile 0.9	1/18/80	With	0.15	0.07	0.73	1.37	0.17	0.13	2.62
			Without	0.15	0.07	0.78	1.47	0.16	0.14	2.77
6M-2	Indian Creek at Centerline Road	1/18/80	With	0.14	0.08	1.27	2.41	0.17	0.24	4.31
			Without	0.12	0.10	0.92	1.83	0.19	0.19	3.35
6M-3	Huntsville Spring Branch at Dodd Road	1/18/80	With	0.14	0.08	1.03	1.84	0.16	0.24	3.49
			Without	0.11	0.08	0.84	1.58	0.14	0.19	2.94
6M-4	Huntsville Spring Branch at Patton Road	1/18/80	With	<0.06	<0.06	0.06	0.18	<0.02	<0.02	0.24
			Without	<0.06	<0.06	0.09	0.14	<0.02	<0.02	0.23

* All analyses performed by SLI.

Table 16. Blind Split Sediment Data

TVA LAB ID	Type * sample	DDT (µg/g)		DDD (µg/g)		DDE (µg/g)		P,P'		Min	Total DDTR (µg/g)	
		O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	O,P'	P,P'		Avg	Max
3-006	BLI	<0.010	<0.020	0.020	0.030	<0.050	0.030	0.080	0.125	0.170	0.125	0.170
	ORI	<0.020	<0.020	0.020	0.030	<0.050	0.030	0.080	0.125	0.170	0.125	0.170
3-034	BLI	<0.010	<0.020	<0.020	0.020	<0.050	0.030	0.050	0.050	0.160	0.050	0.160
	ORI	<0.020	<0.020	<0.020	0.020	<0.050	0.030	0.050	0.110	0.160	0.110	0.160
4-005	BLI	<0.010	<0.020	0.030	0.030	<0.050	0.020	0.080	0.120	0.160	0.120	0.160
	ORI	<0.020	<0.020	0.040	0.050	<0.050	0.020	0.110	0.155	0.200	0.155	0.200
4-021	BLI	0.14	2.58	1.77	3.85	1.87	2.70	12.9	12.9	12.9	12.9	12.9
	ORI	0.160	2.65	1.95	4.42	2.08	3.07	14.3	14.3	14.3	14.3	14.3
4-025	BLI	<0.020	0.15	0.050	0.130	0.230	0.230	0.790	0.800	0.810	0.800	0.810
	ORI	<0.020	0.11	0.050	0.120	0.230	0.210	0.720	0.730	0.740	0.730	0.740
4-038	BLI	2.27	62.3	9.27	37.1	7.72	10.8	129	129	129	129	129
	ORI	2.73	63.0	11.5	36.5	7.81	10.4	132	132	132	132	132
4-053	BLI	3.640	80.0	27.4	48.6	5.51	14.2	179	179	179	179	179
	ORI	3.94	85.0	27.3	50.6	5.56	14.2	187	187	187	187	187
4-075	BLI	70.0	743.	55.6	65.2	10.3	42.7	987	987	987	987	987
	ORI	66.8	796.	54.5	65.2	10.1	42.7	1040	1040	1040	1040	1040
4-082	BLI	0.040	0.830	0.590	0.940	0.630	1.59	4.62	4.62	4.62	4.62	4.62
	ORI	0.040	0.820	0.600	0.970	0.620	1.54	4.59	4.59	4.59	4.59	4.59
4-090	BLI	<0.120	0.030	0.070	0.080	0.030	0.050	0.260	0.270	0.280	0.270	0.280
	ORI	<0.020	0.040	0.070	0.080	0.030	0.050	0.270	0.280	0.290	0.280	0.290
4-097	BLI	0.040	0.210	0.040	0.050	<0.010	0.020	0.360	0.365	0.370	0.365	0.370
	ORI	0.040	0.210	0.040	0.050	<0.010	0.020	0.360	0.365	0.370	0.365	0.370
4-100	BLI	0.030	0.310	0.020	0.050	0.050	0.050	0.510	0.510	0.510	0.510	0.510
	ORI	0.020	0.110	0.020	0.040	0.010	0.050	0.250	0.250	0.250	0.250	0.250
4-109	BLI	0.060	0.150	0.050	0.080	0.050	0.200	0.590	0.590	0.590	0.590	0.590
	ORI	0.060	0.180	0.040	0.080	0.060	0.090	0.510	0.510	0.510	0.510	0.510
4-114	BLI	45.3	238	203	830	35.3	70.7	1420	1420	1420	1420	1420
	ORI	46.7	248	214	750	36.0	75.1	1370	1370	1370	1370	1370
4-118D	BLI	15.4	122	3.50	7.00	2.20	6.00	156	156	156	156	156
	ORI	17.6	135	3.81	7.80	2.32	7.48	174	174	174	174	174
4-126	BLI	1040	10100	157	463	115	405	12300	12300	12300	12300	12300
	ORI	1163	10200	147	458	114	448	12600	12600	12600	12600	12600

Table 16 (continued)

TVA LAB ID	Type * sample	DDT (µg/g)		DDD (µg/g)		DDE (µg/g)		Total DDTR (µg/g)		
		O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	Min	Avg	Max
4-131	BLI	232	1564	94.3	108	54.3	217	2270	2270	2270
4-156	ORI	279	2050	106	112	62.1	217	2880	2880	2880
	BLI	0.020	0.100	<0.050	0.050	<0.040	0.055	0.225	0.270	0.315
4-160	ORI	<0.070	0.100	<0.050	0.053	<0.040	<0.040	0.153	0.253	0.353
	BLI	0.022	0.160	0.039	0.130	0.022	0.034	0.407	0.470	0.470
4-183	ORI	<0.02	0.170	0.043	0.140	0.021	0.036	0.410	0.420	0.430
	BLI	0.033	1.59	0.370	1.06	0.140	0.270	3.46	3.46	3.46
4-196	ORI	0.029	1.61	0.320	0.910	0.110	0.220	3.20	3.20	3.20
	BLI	0.019	0.033	0.070	0.061	0.033	0.093	0.309	0.309	0.309
4-200	ORI	<0.024	<0.038	0.076	0.052	0.048	0.095	0.271	0.271	0.271
	BLI	103	780	45.0	43.7	22.9	91.6	1090	1090	1090
4-213	ORI	105	860	46.2	39.9	23.1	90.3	1160	1160	1160
	BLI	0.015	0.16	0.024	0.082	0.009	0.027	0.317	0.317	0.317
4-222	ORI	<0.017	0.17	0.022	0.09	0.007	0.023	0.312	0.320	0.329
	BLI	3.67	20.3	8.00	8.00	3.39	6.68	50.0	50.0	50.0
4-234	ORI	4.76	36.7	12.2	12.2	4.08	15.6	85.5	85.5	85.5
	BLI	30.4	114	11.8	21.9	6.00	17.3	201	201	201
4-240	ORI	19.7	97.8	10.7	18.8	3.57	16.0	167	167	167
	BLI	1.15	3.06	<0.57	0.83	<0.44	0.76	5.80	6.30	6.81
5-165	ORI	1.17	2.57	<0.52	1.03	0.39	0.70	5.86	6.12	6.38
	BLI	<0.007	0.020	<0.005	0.008	<0.003	0.020	0.048	0.056	0.063
6-475	ORI	<0.007	0.020	<0.005	0.008	<0.003	0.020	0.048	0.056	0.063
	BLI	2.73	57.1	14.4	33.3	5.8	17.5	132	132	132
	ORI	4.84	53.8	11.3	34.8	5.55	14.4	125	125	125

* BLI - Blind sample.

ORI - Regular original sample.

Table 17. Blind Split Sediment Data (by Request)

TVA LAB ID	Type sample *	DDT (µg/g)		DDD (µg/g)		DDE (µg/g)		Total DDTR (µg/g)		
		O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	Min	Avg	Max
4-184	RR	<0.013	0.25	0.098	0.21	0.065	0.090	0.713	0.718	0.726
4-41	OV	<0.02	0.53	0.19	0.41	0.12	0.11	1.36	1.37	1.38
4-157	RR	<0.09	0.30	<0.06	0.081	<0.05	0.53	0.434	0.534	0.634
4-47	OV	<0.02	0.14	<0.02	0.10	<0.01	0.01	0.25	0.28	0.30
4-161	RR	0.010	0.19	0.051	0.12	0.030	0.077	0.478	0.478	0.478
4-63	OV	<0.02	0.57	0.11	0.45	0.04	0.08	1.25	1.26	1.27
4-174	RR	0.28	3.10	0.30	0.89	<0.20	0.52	5.09	5.19	5.29
4-55	OV	0.07	2.21	0.89	1.97	0.24	0.44	5.82	5.82	5.82
4-180	RR	0.13	3.00	0.48	0.85	0.13	0.30	4.89	4.89	4.89
4-59	OV	0.20	3.00	1.56	2.18	0.29	0.68	7.91	7.91	7.91
4-219	RR	1550	8630	369	1050	44.5	226	11900	11900	11900
4-96	OV	0.50	38.4	2.9	3.3	0.38	1.9	54.4	54.4	54.4
4-210	RR	0.29	1.82	1.56	3.84	0.82	1.56	9.89	9.89	9.89
4-71	OV	0.03	0.54	0.39	0.94	0.19	0.35	2.44	2.44	2.44

* RR - Reanalyzed value obtained by SLI.

OV - Original value obtained by SLI.

Table 18. Tabulation of Results from "Pooled" Sediment Samples for DDTR Analysis

TVA LAB ID	Lab	DDI (µg/g)		DDD (µg/g)		DDE (µg/g)		DDT (µg/g)		Total DDTR (min) (µg/g)	
		O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	O,P'	P,P'		
SD-11*	SLI	0.20	5.06	3.53	8.49	2.43	5.66			25.6	
SD-12*	SLI	0.09	5.21	3.77	8.53	2.44	5.87			25.9	
SD-13*	SLI	0.15	5.16	3.82	8.20	2.36	5.61			25.3	
SD-14*	SLI	0.56	5.37	4.25	8.95	2.46	6.27			27.9	
SD-15*	SLI	0.13	5.20	3.80	6.85	2.21	5.20			23.4	
SD-6*	EPA	<0.85	4.50	4.60	9.30	3.30	6.10			28.4	
SD-7*	EPA	<0.85	4.10	4.10	14.00	3.00	7.90			33.1	
SD-8*	EPA	<0.79	4.13	4.10	9.10	3.00	8.30			28.6	
SD-9*	EPA	<0.82	4.40	4.60	9.90	3.40	9.80			32.1	
SD-10*	EPA	<0.69	3.50	4.10	10.00	1.90	5.80			25.3	
SD-23	SLI	<0.2	2.57	2.63	5.06	2.23	6.01			18.5	
SD-24	SLI	0.19	3.05	3.14	5.06	2.24	6.05			19.7	
SD-25	SLI	0.37	5.47	5.11	9.76	3.32	7.95			32.0	
SD-26	SLI	0.16	2.85	3.28	5.89	2.88	7.12			22.2	
SD-27	EPA	<1.5	3.8	4.6	11.0	3.5	6.7			29.0	
SD-28	EPA	<0.6	4.0	4.2	9.9	3.3	5.9			27.0	
E-7	SLI	0.23	4.04	3.35	5.71	2.77	6.17			22.3	
E-8	SLI	0.19	3.52	3.19	5.38	2.72	5.96			21.0	

* Submitted initially to establish concentration of "pooled" sample.

Table 19. Tabulation of Results from "Pooled" Sediment Samples for Trace Metals and Particle Size

Constituent (units)	Replicate number ^a							Mean	S.D. ^b	% RSD ^c
	1	2	3	4	5	6	7			
Iron, µg/g	33,000	31,000	27,000	26,000	23,000	-	-	28,000	4,000	14.3
Manganese, µg/g	2,400	2,200	2,300	2,100	1,500	-	-	2,100	353	16.8
Copper, µg/g	61	55	62	60	56	-	-	58.8	3.1	5.3
Zinc, µg/g	370	330	410	400	340	-	-	370	35.3	9.5
Nickel, µg/g	30	32	39	38	35	-	-	34.8	3.8	10.9
Silver, µg/g	7	7	6	7	6	-	-	6.6	0.54	8.1
Cadmium, µg/g	2	2	2	3	2	-	-	2.2	0.44	20.0
Lead, µg/g	69	63	74	67	70	-	-	68.6	4.0	5.8
Chromium, µg/g	82	73	77	85	70	-	-	77.4	6.1	7.9
Cobalt, µg/g	10	9	<5 ^d	9	7	-	-	8	2	25.0
Aluminum, µg/g	52,000	62,000	72,000	65,000	59,000	-	-	62,000	7,380	11.9
Barium, µg/g	170	200	210	180	190	-	-	190	15.8	8.3
Beryllium, µg/g	<1	<1	<1	<1	<1	-	-	-	-	-
Thallium, µg/g	<5	<5	<5	<5	<5	-	-	-	-	-
Mercury, µg/g	0.52	0.45	0.68	0.67	0.55	-	-	0.57	0.09	15.8
Arsenic, µg/g	11	10	12	10	11	-	-	10.8	0.83	7.7
Selenium, µg/g	<0.8	<0.8	<0.8	<0.8	<0.8	-	-	-	-	-
% Moisture	60.93	61.52	60.59	59.87	59.86	59.89	58.56	60.17	0.95	1.6
% Vol. Solids	8.98	9.02	11.79	8.99	9.09	9.08	9.20	9.45	1.0	10.6
% Solids Finer Than										
2.0 mm	100	100	100	99.87	100	99.75	99.87	99.92	0.09	0.09
0.5 mm	99.87	99.74	99.74	99.74	99.87	99.62	97.74	99.47	0.76	0.76
0.125 mm	98.45	98.33	98.21	98.20	98.35	98.10	98.10	98.26	0.11	0.11
0.063 mm	97.42	97.56	97.19	97.31	97.60	97.34	97.41	97.40	0.14	0.14
% Solids in <63µ Fraction (From Sedigraph)										
0.010 mm	87	87	90	89	86	87	86	87.4	1.5	1.7
0.002 mm	61	59	62	61	59	59	61	60.2	1.2	2.0
0.0005 mm	43	40	44	44	41	40	43	42.1	1.7	4.0

^aAll analyses performed by Laboratory Branch (TVA).^bSD - Standard deviation.^cRSD - Relative standard deviation.^dLess than value used in calculations.

Table 20. SLI-EPA Split Sediment Data

TVA LAB ID	Lab	DDT (µg/g)		DDD (µg/g)		DDE (µg/g)		Total DDTR (µg/g)		
		O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	Min	Avg	Max
3-001	EPA	<0.020	<0.020	<0.014	<0.014	<0.011	0.017	0.017	0.056	0.096
	SLI	<0.020	<0.020	<0.020	0.020	<0.050	0.010	0.030	0.085	0.140
3-003	EPA	<0.110	<0.110	<0.084	<0.038	<0.073	0.051	0.051	0.258	0.466
	SLI	0.030	0.030	0.030	0.050	<0.050	0.030	0.170	0.195	0.220
3-005	EPA	<0.059	<0.059	<0.060	<0.024	<0.055	0.042	0.042	0.170	0.299
	SLI	<0.020	<0.020	0.020	0.030	<0.050	0.030	0.080	0.125	0.170
3-006	EPA	<0.025	<0.030	0.023	0.042	0.026	0.039	0.130	0.157	0.185
	SLI	<0.020	<0.020	0.020	0.030	<0.050	0.030	0.080	0.125	0.170
3M-07	EPA	<0.013	<0.013	<0.006	<0.006	<0.003	0.003	0.000	0.022	0.044
	SLI	<0.020	<0.020	<0.020	<0.020	<0.010	0.010	0.000	0.050	0.100
4-001	EPA	<0.061	<0.061	0.340	0.420	0.140	0.150	1.05	1.11	1.17
	SLI	<0.020	0.030	0.170	0.450	0.110	0.140	0.900	0.910	0.920
4-002	EPA	<0.180	1.10	1.70	3.80	2.00	2.60	11.2	11.3	11.4
	SLI	0.040	2.20	3.40	3.10	2.00	3.00	13.7	13.7	13.7
4-003	EPA	<0.098	0.690	0.620	1.40	1.80	1.50	6.01	6.06	6.11
	SLI	0.030	0.550	0.620	0.980	1.80	1.20	5.18	5.18	5.18
4-004	EPA	<0.070	0.130	0.350	0.650	0.630	0.490	2.25	2.28	2.32
	SLI	0.040	0.170	0.280	0.720	0.600	0.570	2.38	2.38	2.38
4-006	EPA	<0.070	0.450	0.900	0.400	0.400	1.10	3.25	3.28	3.32
	SLI	0.030	0.220	1.20	0.730	0.550	1.40	4.13	4.13	4.13
4-032	EPA	<0.110	1.30	0.740	2.30	0.900	0.010	5.85	5.90	5.90
	SLI	0.100	3.05	1.22	3.68	1.08	1.11	10.2	10.2	10.2
4-033	EPA	<0.040	0.120	0.056	0.160	0.049	0.044	0.429	0.449	0.469
	SLI	<0.020	0.170	0.100	0.220	0.070	0.060	0.620	0.630	0.640
4-034	EPA	<0.068	1.00	0.350	1.10	0.500	0.270	3.22	3.25	3.29
	SLI	0.110	2.35	0.510	1.11	0.440	0.430	4.95	4.95	4.95
4-038	EPA	<2.00	48.0	8.20	34.0	6.80	6.10	103	104	105
	SLI	2.73	63.0	11.5	36.5	7.81	10.4	132	132	132
4-039	EPA	<1.90	42.0	11.0	36.0	12.0	8.10	109	110	111
	SLI	0.680	34.4	10.3	34.4	10.3	9.75	99.8	99.8	99.8
4-040	EPA	<0.069	0.460	0.360	0.650	0.640	0.350	2.46	2.52	2.59
	SLI	0.020	0.810	0.480	1.100	0.660	0.570	3.64	3.640	3.64
4-041	EPA	<0.030	0.440	0.190	0.340	0.120	0.110	1.20	1.22	1.23
	SLI	<0.020	0.530	0.190	0.410	0.120	0.110	1.36	1.37	1.38
4-044	EPA	<2.00	46.0	7.20	36.0	4.80	5.40	99.4	100	101
	SLI	1.14	52.5	11.0	35.0	6.50	9.00	115	115	115
4-045	EPA	<0.830	0.220	0.160	0.320	0.120	0.120	0.940	0.981	1.02
	SLI	0.02	1.28	0.660	1.20	0.380	0.480	4.02	4.02	4.02
4-170	EPA	0.190	1.20	2.50	1.20	0.630	2.50	8.42	8.42	8.42
	SLI	<0.130	1.68	3.28	1.45	0.850	3.13	10.4	10.6	10.5
4-171	EPA	0.350	0.750	3.40	1.50	1.80	3.50	11.3	11.3	11.3
	SLI	<0.410	0.910	2.94	1.74	1.24	4.26	11.1	11.3	11.5
4-172	EPA	9.20	190	71.0	142	27.0	32.0	471	471	471
	SLI	7.00	78.8	56.3	68.8	17.3	38.8	267	267	267
4-176	EPA	0.014	0.170	0.030	0.061	0.013	0.021	0.309	0.309	0.309
	SLI	<0.530	6.38	2.58	5.88	1.05	2.80	18.7	19.2	19.2

Table 20 (continued)

TVA LAB ID	Lab	DDT (µg/g)		DDD (µg/g)		DDE (µg/g)		Total DDTR (µg/g)		
		O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	Min	Avg	Max
4-194	EPA	<0.800	3.20	4.50	8.00	2.80	4.80	23.3	23.7	24.1
	SLI	0.340	4.36	3.61	6.21	2.01	5.03	21.6	21.6	21.6
4-195	EPA	2.40	7.90	4.40	5.70	2.70	3.30	26.4	26.4	26.4
	SLI	0.046	0.350	1.44	1.38	0.830	1.50	5.55	5.55	5.55
4-212	EPA	0.140	0.660	0.088	0.120	0.040	0.110	1.16	1.16	1.16
	SLI	0.066	0.350	0.052	0.100	0.028	0.110	0.706	0.706	0.706
4-215	EPA	<0.030	<0.040	0.140	0.160	0.054	0.110	0.464	0.499	0.534
	SLI	0.008	0.008	0.056	0.048	0.034	0.090	0.244	0.244	0.244
4-220	EPA	480	1500	440	520	110	240	3290	3290	3290
	SLI	740	6100	640	850	148	435	8910	8910	8910
4-221	EPA	1400	3300	620	740	160	320	6540	6540	6540
	SLI	2300	12,700	1000	1300	150	650	18,100	18,100	18,100
4-223	EPA	<5.00	18.0	48.0	46.0	11.0	24.0	147	150	152
	SLI	1.56	12.2	22.6	21.1	7.02	20.8	85.3	85.3	85.3
4-228	EPA	<350	2400	770	1300	230	410	5110	5460	5460
	SLI	170	3100	960	2400	275	800	7700	7700	7700
4-236	EPA	220	1100	170	270	77.0	130	1970	1970	1970
	SLI	184	1050	127	260	835	130	2590	2590	2590

Table 21. Results from Special Study to Determine Sediment Compositing Variability

Replicate number	DDT (µg/g)		DDD (µg/g)		DDE (µg/g)		Total DDT ^a (µg/g)	
	O ₃ P'	P ₃ P'	O ₃ P'	P ₃ P'	O ₃ P'	P ₃ P'	O ₃ P'	P ₃ P'
1	17.4	130	4.20	8.41	2.19	7.40	170	
2	13.8	170	5.29	8.70	3.10	6.31	207	
3	16.0	106	4.40	8.41	2.19	7.10	144	
4	25.1	154	4.49	9.41	2.20	5.89	201	
5	17.6	135	3.81	7.80	2.32	7.48	174	
6	20.5	135	4.40	8.40	2.88	9.71	181	
7	18.7	220	4.19	9.80	2.39	8.28	263	
8	15.0	89.7	3.81	7.61	2.00	6.61	125	
Mean ^b	18.0	142	4.32	8.57	2.40	7.35	183	
S.D.	3.55	40.1	0.47	0.74	0.38	1.21	42.2	
RSD (%) ^c	19.7	28.3	10.8	8.6	15.9	16.5	23.0	

^aAll analyses performed by SLI.

^bStandard deviation.

^cRelative standard deviation.

Table 22. Original SLI Blind Split Fish Data

TVA LAB ID	Type sample*	DDI (µg/g)		DDD (µg/g)		DDE (µg/g)		Total DDTR (µg/g)		
		O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	Min	Avg	Max
1-008	BLI	0.020	0.030	<0.030	0.150	0.040	0.150	0.390	0.405	0.420
	ORI	0.050	0.040	0.030	0.280	0.070	0.290	0.760	0.760	0.760
1-012	BLI	<0.020	<0.020	<0.020	<0.020	0.310	0.070	0.380	0.420	0.460
	ORI	<0.020	<0.020	<0.020	<0.020	<0.010	0.020	0.020	0.065	0.110
1-017B	BLI	<0.020	<0.020	<0.020	0.230	0.057	0.280	0.567	0.597	0.627
	ORI	0.034	0.032	0.024	0.290	0.067	0.300	0.747	0.747	0.747
1-031A	BLI	<0.020	<0.020	0.042	0.160	0.076	0.160	0.438	0.458	0.478
	ORI	<0.020	<0.020	<0.020	<0.020	<0.010	0.020	0.020	0.065	0.110
1-052C	BLI	0.057	0.036	<0.020	0.048	0.064	0.067	0.272	0.282	0.292
	ORI	0.220	0.170	<0.010	0.140	0.340	0.410	1.28	1.28	1.29
1-056D	BLI	0.130	0.300	0.100	0.340	0.140	0.280	1.29	1.29	1.29
	ORI	0.070	0.160	0.060	0.100	0.100	0.190	0.680	0.680	0.680
1-067	BLI	<0.030	<0.030	<0.030	<0.020	<0.020	0.080	0.080	0.145	0.210
	ORI	<0.030	<0.030	<0.030	<0.020	<0.020	0.060	0.060	0.125	0.190
1-070	BLI	<0.030	<0.030	<0.030	<0.020	<0.020	<0.020	0.000	0.075	0.150
	ORI	<0.030	<0.030	<0.030	<0.020	<0.020	<0.020	0.000	0.075	0.150
1-078	BLI	<0.030	0.010	0.380	0.810	0.089	0.540	1.92	1.93	1.95
	ORI	<0.030	0.092	0.290	0.900	0.099	0.450	1.83	1.85	1.86
1-080D	BLI	0.024	0.051	0.093	0.780	0.400	0.610	1.96	1.96	1.96
	ORI	0.042	0.030	0.084	0.086	0.380	0.640	2.04	2.04	2.04
1-086F	BLI	<0.020	0.290	1.86	11.9	1.48	7.61	23.1	23.2	23.2
	ORI	0.240	0.330	2.150	9.11	1.14	5.83	18.8	18.8	18.8
1-089D	BLI	1.48	0.340	20.1	52.9	9.10	32.9	117	117	117
	ORI	2.61	0.180	38.8	101	17.2	58.0	218	218	218
1-095	BLI	<0.030	0.051	<0.030	0.220	0.150	0.380	0.801	0.831	0.861
	ORI	<0.030	0.066	<0.030	0.130	0.039	0.110	0.345	0.375	0.405
1-103A	BLI	0.290	0.300	2.08	5.85	1.23	4.24	14.0	14.0	14.0
	ORI	0.066	0.095	1.31	3.19	0.750	2.43	7.84	7.84	7.84
1-107E	BLI	<0.020	0.043	0.020	0.089	0.037	0.340	0.529	0.539	0.549
	ORI	0.028	0.045	0.036	0.280	0.057	0.400	0.846	0.846	0.846

Table 22 (continued)

TVA LAB ID	Type* Sample	DDT (µg/g)		DDD (µg/g)		DDE (µg/g)		Total DDTR (µg/g)	
		O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	Min	Max
1-116	BLI	<0.030	<0.030	<0.030	0.190	<0.020	0.140	0.330	0.385
	ORI	0.077	0.051	0.120	0.400	0.130	0.350	1.13	1.13
1-124D	BLI	0.022	0.029	0.140	0.330	0.110	0.330	0.961	0.961
	ORI	0.038	0.026	0.023	0.230	0.072	0.220	0.609	0.609
1-132E	BLI	<0.020	<0.020	<0.020	0.041	<0.010	0.050	0.091	0.161
	ORI	<0.020	<0.020	<0.020	<0.020	<0.010	0.010	0.010	0.100
1-163D	BLI	0.067	0.095	0.970	2.79	0.580	1.93	6.43	6.43
	ORI	0.390	0.170	2.03	5.61	1.25	4.09	13.5	13.5
1-166B	BLI	0.075	0.047	0.440	1.11	0.410	1.06	3.14	3.14
	ORI	0.043	0.061	0.370	1.02	0.380	0.930	2.80	2.80
1M-51	BLI	0.530	0.410	6.10	28.3	3.42	11.5	50.3	50.3
	ORI	0.076	0.030	0.970	4.05	0.520	1.61	7.26	7.26
2M-01	BRI	0.090	<0.020	<0.030	<0.020	<0.020	0.240	0.330	0.420
	ORI	0.063	<0.020	<0.020	0.180	0.035	0.140	0.418	0.458
2M-15	BRI	1.02	0.810	16.3	63.6	5.46	18.0	105	105
	ORI	0.190	0.130	3.40	11.6	1.15	3.37	19.8	19.8
1-001F**	BLI	<0.100	<0.100	<0.100	0.170	<0.100	0.150	0.320	0.720
	ORI	<0.100	<0.100	<0.090	0.180	<0.060	0.160	0.340	0.690
1-018**	BLI	0.051	0.078	0.033	0.270	0.120	0.430	0.982	0.982
	ORI	0.057	0.072	0.098	0.220	0.120	0.340	0.907	0.907
1-026**	BLI	0.050	<0.030	0.020	0.090	0.060	0.110	0.330	0.360
	ORI	0.030	<0.030	0.030	0.100	0.030	0.110	0.300	0.330
1-035**	BLI	<0.030	<0.030	0.047	0.25	0.062	0.21	0.569	0.629
	ORI	<0.030	<0.030	<0.030	0.15	0.037	0.14	0.327	0.417
1-050**	BLI	0.055	0.063	0.110	0.450	0.130	0.420	1.228	1.228
	ORI	<0.030	0.080	0.160	0.520	0.150	0.440	1.35	1.38
1-051**	BLI	<0.030	0.041	0.103	0.15	0.084	0.18	0.558	0.588
	ORI	<0.030	0.058	0.099	0.11	0.061	0.24	0.568	0.598
1-054**	BLI	0.410	0.170	0.090	0.310	0.100	0.370	1.360	1.450
	ORI	0.370	0.300	0.130	0.450	0.250	0.510	2.010	2.010
1-081**	BLI	<0.030	<0.030	<0.030	<0.020	<0.020	0.180	0.180	0.310
	ORI	<0.030	<0.030	<0.030	<0.020	<0.020	0.120	0.120	0.250

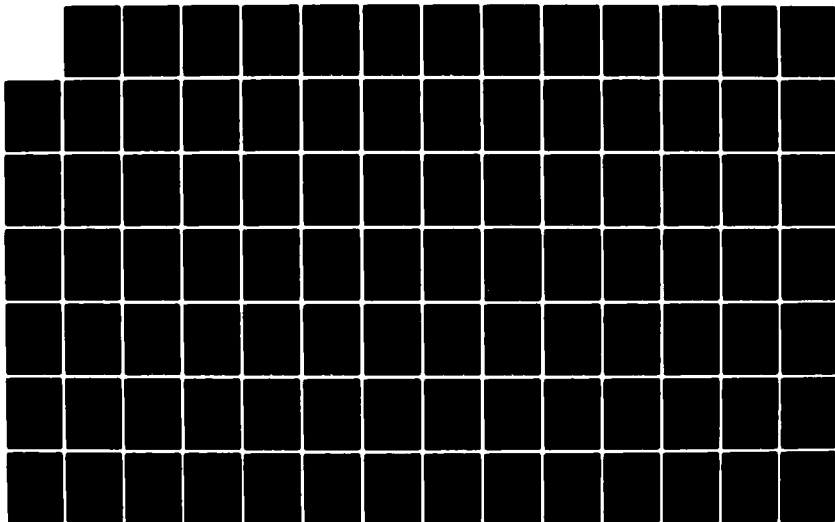
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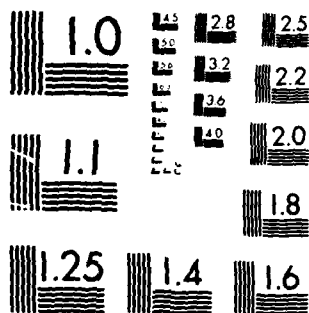
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CONTAMINATION OF HUNTSVILLE SP..(U) WATER AND AIR
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Table 22 (continued)

TVA LAB ID	Type* Sample	DDT (µg/g)		DDD (µg/g)		DDE (µg/g)		Total DDTR (µg/g)		
		O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	Min	Avg	Max
1-116	BLI	<0.030	<0.030	<0.030	0.190	<0.020	0.140	0.330	0.385	0.440
	ORI	0.077	0.051	0.120	0.400	0.130	0.350	1.13	1.13	1.13
1-124D	BLI	0.022	0.029	0.140	0.330	0.110	0.330	0.961	0.961	0.961
	ORI	0.038	0.026	0.023	0.230	0.072	0.220	0.609	0.609	0.609
1-132E	BLI	<0.020	<0.020	<0.020	0.041	<0.010	0.050	0.091	0.126	0.161
	ORI	<0.020	<0.020	<0.020	<0.020	<0.010	0.010	0.010	0.055	0.100
1-163D	BLI	0.067	0.095	0.970	2.79	0.580	1.93	6.43	6.43	6.43
	ORI	0.390	0.170	2.03	5.61	1.25	4.09	13.5	13.5	13.5
1-166B	BLI	0.075	0.047	0.440	1.11	0.410	1.06	3.14	3.14	3.14
	ORI	0.043	0.061	0.370	1.02	0.380	0.930	2.80	2.80	2.80
1M-51	BLI	0.530	0.410	6.10	28.3	3.42	11.5	50.3	50.3	50.3
	ORI	0.076	0.030	0.970	4.05	0.520	1.61	7.26	7.26	7.26
2M-01	BRI	0.090	<0.020	<0.030	<0.020	<0.020	0.240	0.330	0.372	0.420
	ORI	0.063	<0.020	<0.020	0.180	0.035	0.140	0.418	0.438	0.458
2M-15	BRI	1.02	0.810	16.3	63.6	5.46	18.0	105	105	105
	ORI	0.190	0.130	3.40	11.6	1.15	3.37	19.8	19.8	19.8
1-001F**	BLI	<0.100	<0.100	<0.100	0.170	<0.100	0.150	0.320	0.520	0.720
	ORI	<0.100	<0.100	<0.090	0.180	<0.060	0.160	0.340	0.515	0.690
1-018**	BLI	0.051	0.078	0.033	0.270	0.120	0.430	0.982	0.982	0.982
	ORI	0.057	0.072	0.098	0.220	0.120	0.340	0.907	0.907	0.907
1-026**	BLI	0.050	<0.030	0.020	0.090	0.060	0.110	0.330	0.345	0.360
	ORI	0.030	<0.030	0.030	0.100	0.030	0.110	0.300	0.315	0.330
1-035**	BLI	<0.030	<0.030	0.047	0.25	0.062	0.21	0.569	0.599	0.629
	ORI	<0.030	<0.030	<0.030	0.15	0.037	0.14	0.327	0.372	0.417
1-050**	BLI	0.055	0.063	0.110	0.450	0.130	0.420	1.228	1.228	1.228
	ORI	<0.030	0.080	0.160	0.520	0.150	0.440	1.35	1.36	1.38
1-051**	BLI	<0.030	0.041	0.103	0.15	0.084	0.18	0.558	0.573	0.588
	ORI	<0.030	0.058	0.099	0.11	0.061	0.24	0.568	0.583	0.598
1-054**	BLI	0.410	0.170	0.090	0.310	0.100	0.370	1.360	1.405	1.450
	ORI	0.370	0.300	0.130	0.450	0.250	0.510	2.010	2.010	2.010
1-081**	BLI	<0.030	<0.030	<0.030	<0.020	<0.020	0.180	0.180	0.245	0.310
	ORI	<0.030	<0.030	<0.030	<0.020	<0.020	0.120	0.120	0.185	0.250

Table 22 (continued)

TVA LAB ID	Type* sample	DDT (µg/g)		DDD (µg/g)		DDE (µg/g)		Total DDTR (µg/g)	
		O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	Min	Avg
1-112**	BLI	<0.030	<0.030	<0.030	<0.020	<0.020	<0.020	0.000	0.075
	ORI	<0.030	<0.030	<0.030	<0.020	<0.020	<0.020	0.000	0.075
1-138**	BLI	<0.03	0.03	0.41	0.81	0.12	0.39	1.76	1.78
	ORI	<0.03	0.14	0.51	0.95	0.15	0.56	2.31	2.32
1-154**	BLI	<0.030	<0.030	<0.030	<0.020	<0.020	0.180	0.180	0.245
	ORI	<0.030	<0.030	<0.030	<0.020	<0.020	0.130	0.130	0.195
1M-07**	BLI	0.83	1.24	6.05	16.0	2.82	13.5	40.4	40.4
	ORI	1.00	1.07	5.63	16.9	3.26	14.2	42.1	42.1
1M-17**	BLI	5.85	11.2	35.5	73.7	10.5	34.9	172	172
	ORI	4.50	5.12	19.3	37.3	5.16	18.8	90.2	90.2
1M-23**	BLI	0.440	0.230	<0.020	0.280	0.260	0.600	1.81	1.82
	ORI	0.430	0.260	<0.040	0.260	0.370	0.810	2.13	2.15
1M-37**	BLI	3.48	5.67	29.9	91.8	14.8	44.5	190	190
	ORI	13.7	18.0	90.2	291	47.2	141	601	601
1M-52**	BLI	0.110	<0.500	2.10	5.91	0.950	1.92	11.0	11.0
	ORI	0.260	0.096	4.61	11.3	1.89	4.03	22.2	22.2
1-165**	BLI	<0.03	<0.03	0.15	0.58	0.18	0.40	1.31	1.34
	ORI	<0.03	<0.03	<0.03	0.25	<0.02	0.18	0.43	0.48

* BLI - Blind sample.

ORI - Regular original sample.

**Bad day data.

Table 23. Results of Low Concentration of "Pooled" Fish Sample Analyzed by SLI

TVA LAB ID	SLI project No.	Date prepared by SLI	% Lipids	DDT (µg/g)		DDD (µg/g)		DDE (µg/g)		Total DDTR (minimum) (µg/g)	
				O,P'	P,P'	O,P'	P,P'	O,P'	P,P'		
1-A*	9733	09/25/79	3.95	0.28	0.19	0.18	0.82	0.25	0.74	2.46	
1-B*	9733	09/25/79	4.62	0.33	0.23	0.22	1.01	0.30	0.90	2.99	
1-C*	9733	09/25/79	5.03	0.33	0.22	0.22	1.11	0.30	0.97	3.15	
1-D*	9733	09/25/79	4.90	0.32	0.23	0.22	1.07	0.31	0.92	3.07	
1-E*	9733	09/25/79	5.12	0.31	0.21	0.22	1.03	0.30	0.94	3.06	
1-F	10021	11/29/79	5.83	0.30	0.12	0.24	1.26	0.41	1.27	3.60	
1-G	10021	11/29/79	4.96	0.25	0.23	0.34	1.01	0.30	0.90	3.03	
1-H	10021	11/29/79	2.15	0.17	0.15	0.18	0.89	0.61	1.06	3.06	
1-I	10054	12/04/79	2.48	0.16	0.27	0.43	0.88	0.30	1.38	3.42	
1-J	10054	12/04/79	4.68	0.17	0.20	0.40	1.31	0.34	1.10	3.52	
1-K	10054	12/04/79	2.57	0.15	0.11	0.42	1.42	0.38	1.50	3.98	
1-L	10067	12/5-6/79	1.17	<0.03	0.035	<0.03	0.18	0.046	0.16	0.42	
1-M	10067	12/5-6/79	3.63	1.04	<0.04	0.12	0.53	0.24	0.57	2.50	
1-N	10067	12/5-6/79	0.58	<0.04	<0.04	<0.04	0.093	<0.04	0.083	0.18	
1-Q	10102	12/07/79	1.30	<0.02	<0.02	<0.02	0.22	0.062	0.21	0.49	
1-R	10102	12/07/79	0.27	<0.02	<0.02	<0.02	0.042	<0.01	<0.01	0.04	
1-S	10102	12/07/79	0.51	<0.02	<0.02	<0.02	0.060	<0.01	0.064	0.12	
1-T	10133	12/13/79	1.97	0.095	0.047	0.10	0.33	0.12	0.35	1.04	
1-U	10133	12/13/79	2.13	0.087	0.060	0.12	0.37	0.13	0.39	1.16	
1-V	10133	12/13/79	1.73	0.085	0.060	0.12	0.28	0.11	0.34	1.00	
1-W	10173	12/27-28/79	5.66	0.19	0.045	0.34	0.94	0.36	0.98	2.86	
1-X	10173	12/27-28/79	5.34	0.016	0.080	0.37	1.05	0.37	1.00	3.03	
1-Y	10173	12/27-28/79	5.87	0.27	0.18	0.32	1.09	0.38	1.15	3.39	

*Replicates from the blended mass of fish submitted initially.

Table 24. Results of Low Concentration "Pooled" Fish Sample Analyzed by EPA

TVA LAB ID	Date prepared by EPA	DDT (µg/g)		DDD (µg/g)		DDE (µg/g)		Total DDTR (minimum) (µg/g)
		O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	
1-A*	09/25/79	0.31	0.18	0.21	0.99	0.34	1.0	3.03
1-B*	09/25/79	0.34	0.17	0.22	1.0	0.35	1.1	3.18
1-C*	09/25/79	0.38	0.22	0.21	1.2	0.35	1.2	3.56
1-D*	09/25/79	0.45	0.28	0.26	1.3	0.39	1.3	3.98
1-E*	09/25/79	0.42	0.16	0.26	1.2	0.40	1.2	3.64
1-P	12/13/79	0.62	0.38	0.45	1.5	0.44	1.5	4.9
1-0	12/13/79	0.58	0.28	0.31	1.0	0.43	1.1	3.7
1-AA	12/27/79	0.15	<0.3	0.23	1.0	0.24	1.1	2.7
1-BB	12/27/79	0.09	<0.4	0.23	0.81	0.17	0.83	2.1
1-CC	12/27/79	0.32	<0.34	<0.26	1.1	0.27	1.2	3.2

*Replicates from the blended mass of fish submitted initially.

Table 25. Results of High Concentration of "Pooled" Fish Sample Analyzed by SLI

TVA LAB ID	SLI project/ No.	Date prepared by SLI	% Lipids	DDT ($\mu\text{g/g}$)		DDD ($\mu\text{g/g}$)		DDE ($\mu\text{g/g}$)		Total DDTR (minimum) ($\mu\text{g/g}$)	
				O,P'	P,P'	O,P'	P,P'	O,P'	P,P'		
1-HA*	9853	10/31/79	2.03	3.44	4.48	50.8	149	20.8	81.6	310	
1-HB*	9853	10/31/79	1.99	3.34	4.88	38.4	158	22.2	83.2	310	
1-HC*	9853	10/31/79	1.84	3.14	4.46	36.6	142	21.2	77.0	284	
1-HD*	9853	10/31/79	2.12	3.64	5.02	52.8	164	26.4	90.6	342	
1-HE*	9853	10/31/79	2.15	3.68	4.94	41.0	172	24.6	92.4	339	
1-HF	10021	11/29/79	0.86	13.2	1.25	13.3	42.3	7.05	26.2	103	
1-HG	10021	11/29/79	0.81	3.40	1.75	13.9	33.0	7.17	22.8	82.0	
1-HH	10021	11/29/79	0.22	0.46	0.51	3.27	11.2	2.30	7.04	24.8	
1-HI	10054	12/04/79	0.85	2.26	2.27	17.9	59.1	8.94	35.8	126	
1-HJ	10054	12/04/79	0.94	1.93	1.83	16.2	48.5	7.70	32.1	108	
1-HK	10054	12/04/79	1.31	3.19	3.88	26.5	86.7	13.3	53.6	187	
1-HL	10067	12/5-6/79	0.36	0.61	0.11	5.30	1.43	4.38	1.06	12.9	
1-HM	10067	12/5-6/79	0.08	0.11	0.10	1.06	3.25	0.54	1.80	6.86	
1-HN	10067	12/5-6/79	0.36	0.55	0.48	6.85	19.6	3.59	13.3	44.4	
1-HQ	10102	12/07/79	1.54	3.17	4.12	28.0	102	1.30	58.1	197	
1-HR	10102	12/07/79	0.69	1.24	1.96	10.9	52.3	9.59	23.5	99.5	
1-HS	10102	12/07/79	0.55	<0.02	<0.02	6.10	21.7	3.35	12.0	43.2	
1-HT	10133	12/13/79	2.01	3.44	4.40	40.3	125	20.1	74.2	267	
1-HU	10133	12/13/79	0.95	1.96	2.54	20.0	59.1	10.7	33.0	127	
1-HV	10133	12/13/79	1.32	3.23	3.44	30.6	85.2	15.6	45.2	183	
1-HW	10173	12/27/79	2.31	3.80	5.50	44.6	137	22.7	78.7	292	
1-HX	10173	12/27/79	2.40	4.40	5.50	55.3	160	32.5	113	371	
1-HY	10173	12/27/79	2.11	4.20	5.50	53.1	160	34.3	89.7	347	

* Replicates from the blended mass of fish submitted initially.

Table 26. Results of High Concentration of "Pooled" Fish Sample Analyzed by EPA

TVA LAB ID	Date prepared by EPA	DDT (µg/g)		DDD (µg/g)		DDE (µg/g)		Total DDTR (minimum) (µg/g)
		O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	
1-HA*	10/31/79	6.1	5.9	35	160	28	92	330
1-HB*	10/31/79	5.8	5.7	31	160	24	95	320
1-HC*	10/31/79	6.0	6.1	30	160	25	94	320
1-HD*	10/31/79	7.7	7.5	40	200	31	120	410
1-HE*	10/31/79	6.9	6.8	35	180	27	110	370
1-HP	12/13/79	2.4	2.1	18	59	11	34	130
1-HO	12/13/79	4.5	3.9	31	110	19	65	230
1-HAA	12/27/79	<5.0	4.1	27	120	21	65	240
1-HBB	12/27/79	3.9	3.3	22	95	18	50	190
1-HCC	12/27/79	5.7	5.0	34	120	27	66	260

* Replicates from the blended mass of fish submitted initially.

Table 27. Original EPA-SLI Split Fish Data

TVA LAB ID	Lab	DDT (µg/g)		DDD (µg/g)		DDE (µg/g)		Min	Total DDTR (µg/g)	
		O,P'	P,P'	O,P'	P,P'	O,P'	P,P'		Avg	Max
1-017D	EPA	0.22	0.17	0.40	0.95	0.25	0.76	2.75	2.75	2.75
	SLI	0.14	0.13	0.37	0.81	0.19	0.66	2.30	2.30	2.30
1-017F	EPA	0.050	<0.20	0.12	1.80	0.34	1.4	3.71	3.81	3.91
	SLI	0.035	0.087	0.076	1.02	0.21	0.81	2.24	2.24	2.24
1-052B	EPA	0.46	<0.35	<0.10	0.31	0.087	0.44	1.30	1.52	1.75
	SLI	0.10	0.052	<0.02	0.10	0.099	0.18	0.531	0.541	0.551
1-056D	EPA	0.19	<0.30	0.21	0.48	0.12	0.36	1.36	1.51	1.66
	SLI	0.07	0.16	0.06	0.26	0.10	0.19	0.84	0.84	0.84
1-088D	EPA	<0.50	0.53	9.9	27	4.8	8.8	51.0	51.3	51.5
	SLI	0.35	0.25	10.3	20.1	4.19	8.81	44.0	44.0	44.0
1-089D	EPA	<5	<5	30	97	20	46	193	198	203
	SLI	2.05	0.260	29.5	77.0	13.2	45.5	168	168	168
1-130B	EPA	<0.020	<0.020	0.080	0.34	0.06	0.32	0.80	0.82	0.84
	SLI	<0.020	<0.02	0.031	0.15	0.015	0.14	0.336	0.336	0.336
1-132C	EPA	<1.0	<2.0	0.79	9.6	1.0	7.0	18.4	19.9	21.4
	SLI	0.41	0.54	0.82	6.81	0.68	5.08	14.3	14.3	14.3
1-138A	EPA	<0.08	0.12	0.30	0.68	0.14	0.24	1.48	1.52	1.56
	SLI	0.091	0.490	3.02	5.20	0.86	2.20	11.9	11.9	11.9
1-026	EPA	0.92	0.32	0.57	1.8	0.64	1.6	5.85	5.85	5.85
	SLI*	<0.03	0.03	0.03	0.10	0.03	0.11	0.30	0.32	0.33
1-086	EPA	0.29	0.22	0.80	2.8	0.60	1.8	6.51	6.51	6.51
	SLI	0.58	0.70	1.17	5.66	0.98	3.70	12.8	12.8	12.8
1-050	EPA	0.088	0.045	0.052	0.19	0.12	0.22	0.715	0.715	0.715
	SLI*	<0.03	0.080	0.16	0.52	0.15	0.44	1.35	1.36	1.38
1-113	EPA	0.31	0.36	0.30	0.75	0.37	1.2	3.29	3.29	3.29
	SLI	0.27	0.16	0.45	0.96	0.37	1.26	3.47	3.47	3.47
1-036	EPA	0.30	1.70	0.39	0.67	0.38	0.50	3.94	3.94	3.94
	SLI*	<0.02	0.035	0.077	0.20	0.077	0.21	0.599	0.609	0.619

Table 27 (continued)

TVA LAB ID	Lab	DDT (µg/g)		DDD (µg/g)		DDE (µg/g)		Total DDYR (µg/g)		
		O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	Min	Avg	Max
1-109	EPA	<0.03	<0.04	<0.03	0.033	0.012	0.078	0.123	0.153	0.223
1-088	SLI	<0.020	<0.020	<0.020	0.02	0.010	0.069	0.089	0.124	0.159
	EPA	1.1	1.0	7.6	29	4.0	9.2	51.9	51.9	51.9
1-053	SLI	0.20	0.13	3.00	8.44	1.20	3.28	16.2	16.2	16.2
	EPA	0.040	0.042	0.027	0.099	0.053	0.26	0.521	0.521	0.521
1-151	SLI*	0.049	0.036	0.045	0.11	0.029	0.25	0.519	0.519	0.519
	EPA	<0.03	<0.05	<0.02	0.026	0.025	0.054	0.105	0.155	0.205
1-098	SLI*	0.10	<0.02	<0.02	<0.02	<0.01	<0.01	0.10	0.14	0.18
	EPA	0.25	1.0	1.9	3.9	0.75	1.6	9.40	9.40	9.40
1-078	SLI	<0.02	0.12	<0.02	0.190	0.063	0.43	0.803	0.823	0.843
	EPA	<0.07	0.045	0.38	0.40	0.14	0.27	1.2	1.27	1.30
1-144	SLI	<0.03	0.092	0.29	0.90	0.099	0.45	1.83	1.84	1.86
	EPA	<0.03	<0.05	<0.02	0.019	<0.02	0.054	0.073	0.133	0.193
1M-14	SLI*	<0.02	<0.02	<0.02	<0.02	<0.010	<0.010	0.00	0.05	0.10
	EPA	0.32	0.39	1.0	3.5	0.98	3.1	9.29	9.29	9.29
1M-08	SLI*	<0.03	<0.03	0.14	0.48	0.089	0.45	1.16	1.19	1.22
	EPA	3.1	2.3	8.3	56	9.4	43	122	122	122
1M-10	SLI*	<0.2	0.70	3.30	19.4	2.65	13.8	39.8	39.9	40.0
	EPA	8.4	9.5	18	83	16	65	200	200	200
1M-07	SLI*	0.51	0.81	5.41	19.8	3.15	14.1	43.8	43.8	43.8
	EPA	2.2	2.2	7.4	26	5.2	18	61	61	61
1M-34	SLI*	1.00	1.07	5.63	16.9	3.26	14.2	42.1	42.1	42.1
	EPA	0.22	0.14	0.10	0.06	0.13	0.20	0.756	0.806	0.856
	SLI	<0.05	<0.05	<0.04	<0.03	<0.03	<0.03	0.000	0.12	0.23

* These SLI values were later determined to be inaccurate.

Table 28. Initial Fish Reruns Within SLI of "Good Day" Samples

TVA LAB ID	Type sample *	% Lipids	DDT (µg/g)		DDD (µg/g)		DDE (µg/g)		Total DDTR (µg/g)		
			O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	Min	Avg	Max
1M-27	RR	0.19	0.05	0.05	0.03	0.09	0.03	0.13	0.38	0.38	0.38
	OV	0.54	0.13	0.12	0.046	0.16	0.073	0.32	0.849	0.849	0.849
1-072	RR	0.06	0.04	0.08	0.33	0.82	0.10	0.40	1.77	1.77	1.77
	OV	0.12	0.055	0.040	0.52	1.30	0.16	0.67	2.74	2.74	2.74
1-078	RR	0.07	0.03	0.03	0.18	0.48	0.06	0.26	1.04	1.04	1.04
	OV	0.16	<0.03	0.092	0.29	0.90	0.099	0.45	1.83	1.85	1.86
1-083	RR	3.30	0.05	0.10	0.16	0.65	0.15	1.12	2.23	2.23	2.23
	OV	1.34	<0.02	0.076	0.054	0.24	0.087	0.42	0.877	0.887	0.897
1-089	RR	1.27	3.17	2.61	41.0	115	18.2	60.4	240	240	240
	OV	2.42	2.00	2.81	17.2	66.0	8.75	33.7	130	130	130
1-109	RR	0.28	<0.02	<0.03	<0.01	0.05	<0.01	0.07	0.12	0.155	0.19
	OV	0.18	<0.02	<0.02	<0.02	0.02	<0.01	0.069	0.089	0.124	0.159
1-111	RR	3.81	0.53	0.83	6.51	31.9	3.94	21.0	64.7	64.7	64.7
	OV	2.24	1.08	1.23	5.73	21.1	2.97	15.2	47.3	47.3	47.3
1-113	RR	2.65	0.18	0.22	0.56	1.28	0.40	1.59	4.23	4.23	4.23
	OV	0.78	0.27	0.16	0.45	0.96	0.37	1.26	3.47	3.47	3.47
1-120	RR	0.81	0.05	0.05	0.14	0.52	0.10	0.49	1.35	1.35	1.35
	OV	0.57	<0.02	<0.02	0.14	0.49	0.079	0.28	0.99	1.01	1.03
1-132	RR	0.86	0.10	0.26	0.60	3.87	0.24	2.62	7.69	7.69	7.69
	OV	0.94	0.17	0.35	0.59	3.89	0.26	3.21	8.47	8.47	8.47

* RR - Reanalyzed SLI value.
OV - Original SLI value.

Table 29. Initial Fish Reruns Within SLI of "Bad Day" Samples

TVA LAB ID	Type sample *	Z Lipids	DDT (µg/g)		DDD (µg/g)		DDE (µg/g)		Total Min	DDTR (µg/g)	
			O,P'	P,P'	O,P'	P,P'	O,P'	P,P'		Avg	Max
1-052	RR	1.00	0.06	0.03	<0.01	0.05	0.03	0.05	0.22	0.225	0.23
	OV	1.77	0.53	0.45	0.12	0.42	0.32	0.47	2.31	2.31	2.31
1-025	RR	0.07	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	0.0	0.04	0.08
	OV	0.23	<0.02	0.022	<0.02	0.015	<0.01	0.015	0.052	0.725	0.093
1-026	RR	2.20	0.23	0.26	0.31	1.56	0.35	1.19	3.9	3.9	3.9
	OV	0.36	<0.03	0.03	0.03	0.10	0.03	0.11	0.30	0.315	0.33
1-027	RR	0.81	0.02	0.05	0.08	0.22	0.07	0.29	0.73	0.73	0.73
	OV	0.78	<0.02	0.055	0.064	0.23	0.068	0.26	0.677	0.787	0.697
1-029	RR	<0.05	<0.02	<0.03	<0.01	<0.01	<0.01	<0.01	0.0	0.045	0.09
	OV	0.08	<0.02	<0.02	<0.02	0.025	<0.01	0.016	0.04	0.075	0.11
1-030	RR	2.66	0.15	0.06	0.09	0.81	0.22	0.63	1.960	1.960	1.960
	OV	1.57	0.079	0.039	0.088	0.39	0.11	0.35	1.056	1.056	1.056
1-031	RR	0.05	0.33	0.67	0.67	1.30	0.44	1.73	5.14	5.14	5.14
	OV	4.88	0.40	0.57	0.49	1.47	0.65	2.32	5.9	5.9	5.9
1-034	RR	<0.05	<0.02	<0.03	<0.01	<0.01	<0.01	0.01	0.01	0.05	0.09
	OV	0.14	<0.02	<0.02	<0.02	0.018	<0.01	0.055	0.073	0.108	0.143
1-036	RR	2.79	0.09	0.17	0.29	0.72	0.21	0.66	2.14	2.14	2.14
	OV	1.43	<0.02	0.035	0.077	0.20	0.077	0.21	0.599	0.609	0.619
1-038	RR	<0.05	<0.02	<0.03	<0.01	<0.01	<0.01	0.01	0.01	0.05	0.09
	OV	0.01	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	0.0	0.05	0.10
1-050	RR	1.27	0.09	0.03	0.12	0.51	0.10	0.35	1.2	1.2	1.2
	OV	2.00	0.03	0.07	0.14	0.49	0.14	0.43	1.3	1.3	1.3
1-064	RR	1.41	0.12	0.18	0.04	0.05	0.06	0.12	0.570	0.570	0.520
	OV	0.63	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	0.0	0.05	0.1
1-081	RR	0.71	<0.02	<0.03	<0.01	0.04	0.01	0.15	0.20	0.23	0.26
	OV	1.08	<0.03	<0.03	<0.03	<0.02	0.02	0.12	0.12	0.19	0.25
1-144	RR	0.06	<0.02	<0.02	<0.01	0.01	0.01	0.01	0.04	0.06	0.08
	OV	0.12	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	0.0	0.05	0.1
1-151	RR	0.11	<0.05	<0.06	<0.03	0.05	<0.02	0.07	0.12	0.20	0.280
	OV	0.10	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	0.0	0.05	0.10
1-158	RR	0.71	0.11	0.15	0.04	0.12	0.07	0.37	0.86	0.86	0.86
	OV	0.89	<0.02	<0.02	<0.02	0.090	0.084	0.30	0.474	0.504	0.534
1-159	RR	<0.05	<0.01	<0.01	<0.01	0.04	<0.01	0.05	0.09	0.11	0.130
	OV	0.076	<0.02	<0.02	<0.02	<0.02	<0.01	0.057	0.057	0.102	0.147
1-160	RR	0.77	0.02	0.03	<0.01	0.05	0.02	0.11	0.230	0.235	0.240
	OV	0.11	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	0.0	0.05	0.10
1-163	RR	1.53	0.08	0.07	0.20	0.71	0.15	0.55	1.76	1.76	1.76
	OV	3.48	0.31	0.33	0.46	1.24	0.36	1.00	3.70	3.70	3.70
1-165	RR	0.70	0.03	<0.03	0.03	0.16	0.03	0.09	0.340	0.355	0.370
	OV	2.11	<0.03	<0.03	<0.03	0.25	<0.02	0.18	0.670	0.725	0.78
1-166	RR	1.78	0.20	0.35	1.03	6.24	0.73	3.91	12.5	12.5	12.5
	OV	4.30	0.40	0.64	1.77	9.84	1.32	6.64	20.6	20.6	20.6

Table 29 (continued)

TVA LAB ID	Type sample *	% Lipids	DDT (µg/g)		DDD (µg/g)		DDE (µg/g)		Total DDTR (µg/g)		
			O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	Min	Avg	Max
1-168	RR	0.69	0.05	<0.06	<0.02	0.62	0.06	0.75	1.48	1.52	1.56
	OV	0.24	<0.02	<0.02	<0.02	0.096	<0.01	0.14	0.236	0.271	0.306
1M-09	RR	7.84	0.68	0.46	2.09	8.52	1.91	8.1	21.8	21.8	21.8
	OV	6.13	0.31	0.35	1.15	4.36	1.34	4.81	12.3	12.3	12.3
1M-10	RR	10.4	1.49	1.64	12.6	52.3	7.57	33.7	109	109	109
	OV	6.54	0.51	0.81	5.41	19.8	3.15	14.1	43.8	43.8	43.8
1M-37	RR	6.02	5.75	7.56	56.4	210	27.9	95.9	403	403	403
	OV	7.46	13.7	18.0	90.2	291	47.2	141	601	601	601
1M-38	RR	8.22	4.69	6.22	83.7	256	32.0	123	506	506	506
	OV	3.68	4.14	2.14	39.5	151	17.9	62.3	277	277	277
1M-43	RR	1.77	0.87	0.50	12.5	40.1	5.92	20.0	79.9	79.9	79.9
	OV	1.01	0.85	0.15	5.51	17.9	2.46	9.02	35.9	35.9	35.9
1M-45	RR	0.85	0.39	<0.20	4.67	16.5	2.34	8.42	32.5	32.5	32.5
	OV	0.15	0.046	<0.02	0.76	1.99	0.36	1.12	4.29	4.29	4.30

* RR - Reanalyzed SLI value.

OV - Original SLI value.

Table 30. SLI Blind Split Fish Data During Initial Rerun Phase

TVA LAB ID	Type * sample	DDT (µg/g)		DDD (µg/g)		DDE (µg/g)		Total Min	DDTR (µg/g)	
		0,P'	P,P'	0,P'	P,P'	0,P'	P,P'		Avg	Max
IM-37	OV	5.75	7.56	56.4	210	27.9	95.9	404	404	404
	BS	5.15	7.00	52.6	196	25.7	876	374	374	374
IM-43	OV	0.87	0.50	12.5	40.1	5.92	20.0	80	80	80
	BS	1.04	0.67	16.1	50.1	7.59	25.2	101	101	101

* OV - Original SLI value.
BS - Blind split.

Table 31. Fish Reruns Within EPA at Beginning of Rerun Phase

TVA LAB ID	Type sample *	DDT (µg/g)		DDD (µg/g)		DDE (µg/g)		Total DDTR (µg/g)		
		O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	Min	Avg	Max
1-036	RR	0.062	0.066	0.12	0.34	0.14	0.37	1.10	1.10	1.10
	OV	0.30	1.7	0.39	0.67	0.38	0.50	3.94	3.94	3.94
1-151	RR	<0.03	<0.05	<0.03	0.050	0.032	0.056	0.138	0.193	0.248
	OV	<0.03	<0.05	<0.02	0.026	0.025	0.054	0.105	0.155	0.205
1M-07	RR	0.87	0.57	5.8	21	4.0	14	46.2	46.2	46.2
	OV	2.2	2.2	7.4	26	5.2	18	61.0	61.0	61.0
1M-08	RR	<2	<4	10	89	8.2	57	164	167	170
	OV	3.1	2.3	8.3	56	9.4	43	122	122	122
1M-10	RR	2.1	<3	14	60	12	41	130	131	132
	OV	8.4	9.5	18	83	16	65	200	200	200

* RR - Reanalyzed EPA value.

OV - Original EPA value.

Table 32. SLI-EPA Fish Split Data at Beginning of Rerun Phase

TVA LAB ID	Type sample *	DDT (µg/g)		DDD (µg/g)		DDE (µg/g)		Total DDTR (µg/g)		
		O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	Min	Avg	Max
1-029	SLI	<0.02	<0.03	<0.01	<0.01	<0.01	<0.01	0.0	0.045	0.09
	EPA	<0.02	<0.02	<0.01	<0.01	<0.01	<0.007	0.0	0.0385	0.077
1-034	SLI	<0.02	<0.03	<0.01	<0.01	<0.01	<0.01	0.0	0.045	0.09
	EPA	<0.6	<0.5	<1	<1	<1	<1	0.0	2.55	5.1
1-036	SLI	0.09	0.17	0.29	0.72	0.21	0.66	2.14	2.14	2.14
	EPA	0.62	0.066	0.12	0.34	0.14	0.37	1.10	1.10	1.10
1-038	SLI	<0.02	<0.03	<0.01	<0.01	<0.01	0.01	0.01	0.05	0.09
	EPA	<0.02	<0.02	<0.01	<0.01	<0.01	<0.006	0.0	0.038	0.076
1-064	SLI	0.12	0.18	0.04	0.05	0.06	0.12	0.57	0.57	0.57
	EPA	<0.01	<0.07	<0.04	0.056	0.057	0.11	0.223	0.283	0.343
1-111	SLI	0.53	0.83	6.51	31.9	3.94	21.0	64.7	64.7	64.7
	EPA	<1	<3	5.2	26	2.4	16	49.6	51.6	53.6
1-151	SLI	<0.05	<0.06	<0.03	0.05	<0.02	0.07	0.12	0.2	0.28
	EPA	<0.03	<0.05	<0.03	0.050	0.032	0.056	0.138	0.193	0.248
1-165	SLI	0.03	<0.03	0.03	0.16	0.03	0.09	0.34	0.355	0.37
	EPA	0.040	<0.3	0.24	0.69	0.094	0.33	1.39	1.54	1.69
1-168	SLI	0.05	<0.06	<0.02	0.62	0.06	0.75	1.48	1.52	1.56
	EPA	<0.05	0.064	0.031	0.88	0.17	1.3	2.50	2.52	2.50
1M-7	SLI*	1.00	1.18	4.11	11.0	2.45	10.1	29.8	29.8	29.8
	EPA	0.87	0.57	5.8	21	4.0	14	46.2	46.2	46.2
1M-8	SLI*	<1.7	3.33	5.86	38.4	5.36	30.1	83.0	83.9	84.0
	EPA	<2	<4	10	89	8.2	57	164	167	170
1M-10	SLI	1.49	1.64	12.6	52.3	7.57	33.7	109	109	109
	EPA	2.1	<3	14	60	12	41	129	131	132
1M-27	SLI	0.05	0.05	0.03	0.09	0.03	0.13	0.38	0.38	0.38
	EPA	0.14	<0.2	0.048	0.14	0.080	0.028	0.436	0.536	0.636
1M-38	SLI	4.69	6.22	83.7	256	32.0	123	506	506	506
	EPA	14	10	100	310	66	150	650	650	650
1M-43	SLI	0.87	0.50	12.5	40.1	5.92	20.0	79.9	79.9	79.9
	EPA	1.7	<2	15	48	10	20	94.7	95.7	96.7

* Samples lost in analysis during initial rerun phase and resubmitted during main rerun phase.

Table 33. Additional "Pooled" Fish Samples Analyzed During Rerun Period by EPA

EPA LAB ID	Type pooled sample	Date analyzed	DDT (µg/g)		DDD (µg/g)		DDE (µg/g)		Total DDTR (µg/g)		
			O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	Min	Avg	Max
889	high	4/03/80	7.3	6.7	37	150	33	89	323	323	323
890	high	4/03/80	5.4	5.7	32	130	28	70	271	271	271
891	high	4/03/80	6.2	5.5	33	130	28	79	282	282	282
892	low	4/03/80	0.36	0.25	0.36	1.1	0.43	0.81	3.31	3.31	3.31
893	low	4/03/80	0.33	0.23	0.33	0.96	0.39	0.72	2.96	2.96	2.96
894	low	4/03/80	0.67	<0.7	0.34	1.5	0.56	1.4	4.47	4.83	5.17

Table 34. SLI Blind Split Fish Data During Rerun Phase

TVA LAB ID	Type sample *	% Lipids	DDT (µg/g)		DDD (µg/g)		DDE (µg/g)		Total Min	DDTR (µg/g)	
			O,P'	P,P'	O,P'	P,P'	O,P'	P,P'		Avg	Max
1-021	OV	2.88	<0.02	<0.02	<0.02	0.06	0.09	0.23	0.38	0.41	0.44
	BS	3.49	<0.02	0.12	<0.02	0.11	0.15	0.33	0.71	0.73	0.75
1-037	OV	0.24	<0.02	0.12	0.08	0.26	0.06	0.35	0.87	0.88	0.89
	BS	0.23	<0.02	<0.02	0.06	0.26	0.06	0.35	0.71	0.73	0.75
1-138	OV	0.32	0.33	0.45	1.93	3.87	0.62	2.07	9.27	9.27	9.27
	BS	0.20	0.25	0.45	0.97	1.95	0.33	1.44	5.39	5.39	5.39
1-157	OV	0.26	0.07	0.14	0.06	0.15	0.04	0.19	0.65	0.65	0.65
	BS	0.61	0.08	0.11	0.07	0.23	0.10	0.48	1.07	1.07	1.07
1-143	OV	0.50	0.05	<0.02	0.64	2.30	0.34	1.00	4.33	4.34	4.35
	BS	0.04	0.05	<0.02	0.59	2.16	0.33	0.92	4.05	4.06	4.07
1-156	OV	0.05	<0.02	<0.02	<0.02	0.05	0.01	0.04	0.10	0.13	0.16
	BS	0.03	<0.02	<0.02	<0.02	0.04	<0.01	0.03	0.07	0.10	0.14
1-051	OV	2.65	0.04	0.12	0.12	0.22	0.14	0.45	1.09	1.09	1.09
	BS	0.82	<0.02	0.04	0.03	0.08	0.05	0.14	0.34	0.35	0.36
1M-07	OV	6.56	1.00	1.18	4.11	11.0	2.45	10.1	29.8	29.8	29.8
	BS	4.00	<0.04	0.55	2.49	7.22	1.41	6.40	18	18	18.1
1M-24	OV	2.68	<0.02	<0.02	<0.02	0.26	0.20	0.64	19.2	19.2	19.2
	BS	5.40	0.09	0.11	0.17	0.59	0.42	1.04	2.42	2.42	2.42

* OV - Original SLI value.

BS - Blind split.

Table 35. SLI-EPA Fish Splits During Main Rerun Phase

TVA LAB ID	Lab	DDT (µg/g)		DDD (µg/g)		DDE (µg/g)		Total DDTR (µg/g)		
		O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	Min	Avg	Max
1M-12	SLI	0.48	0.46	0.66	2.29	0.90	2.64	7.43	7.43	7.43
	EPA	1.10	0.61	1.00	4.80	1.50	4.60	13.6	13.6	13.6
1M-19	SLI	0.77	0.62	0.33	0.90	0.41	1.01	4.04	4.04	4.04
	EPA	2.00	0.65	0.77	2.00	0.81	1.50	7.73	7.73	7.73
1M-21	SLI	0.54	0.27	1.10	4.50	0.92	3.47	10.8	10.8	10.8
	EPA	1.20	0.58	1.90	8.30	2.30	5.20	19.5	19.5	19.5
1M-22	SLI	0.50	0.44	0.30	0.96	0.70	1.11	4.01	4.01	4.01
	EPA	0.76	0.19	0.47	2.3	0.90	1.6	6.22	6.22	6.22
1-23	SLI	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	0.0	0.05	0.10
	EPA	<0.02	<0.03	<0.01	<0.01	<0.008	<0.007	0.0	0.042	0.085
1-61	SLI	<0.02	<0.02	<0.02	0.08	0.13	0.25	0.46	0.49	0.52
	EPA	0.090	0.074	0.040	0.11	0.071	0.18	0.565	0.565	0.565
1-103	SLI	<0.02	<0.02	1.21	3.84	0.73	3.25	9.03	9.05	9.07
	EPA	1.2	1.1	2.5	10.0	3.2	7.4	25.4	25.4	25.4
1-142	SLI	0.05	0.04	0.61	1.65	0.25	0.89	3.49	3.49	3.49
	EPA	<0.1	<0.2	0.45	1.4	0.29	0.73	2.87	3.02	3.17
1-146	SLI	<0.02	<0.02	<0.02	0.04	<0.01	0.12	0.16	0.195	0.23
	EPA	<0.02	<0.03	<0.008	0.009	<0.005	0.046	0.055	0.086	0.118
1M-20	SLI	0.28	0.40	0.30	2.50	0.54	1.93	5.95	5.95	5.95
	EPA	1.6	0.20	0.64	3.5	1.1	2.8	9.84	9.84	9.84

Table 36. SLI-EPA Split Data for Last Rerun of Fish
and Vertebrates by SLI

TVA LAB ID	Lab	Type sample*	DDT (µg/g)		DDD (µg/g)		DDE (µg/g)		Total DDTR (µg/g)		
			O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	Min	Avg	Max
1M-25	SLI*	Whole	1.33	1.96	14.4	37.8	6.17	24.9	86.6	86.6	86.6
	EPA	body	5.3	6.6	29	68	14	30	153	153	153
1M-30	SLI*	Whole	0.08	0.04	0.09	0.36	0.17	0.43	1.17	1.17	1.17
	EPA	body	0.47	0.46	1.0	7.0	1.1	3.4	13.4	13.4	13.4
1-140A	SLI*	Fish	0.02	0.05	0.19	0.42	0.06	0.23	0.97	0.97	0.97
	EPA	fillet	0.26	0.45	1.4	2.7	0.71	1.6	7.12	7.12	7.12
1-140B	SLI*	Fish	0.08	0.10	0.57	1.16	0.17	0.56	2.64	2.64	2.64
	EPA	fillet	1.3	2.2	5.4	9.3	2.6	4.8	25.6	25.6	25.6
7-60	SLI*	Vertebrate	<0.01	<0.01	0.01	0.04	<0.01	0.27	0.32	0.335	0.35
	EPA		0.04	<0.06	0.13	0.31	0.087	3.2	3.7	3.8	3.8
7-106	SLI*	Vertebrate	<0.01	0.02	<0.01	0.05	0.02	0.05	0.14	0.15	0.16
	EPA		0.035	0.069	0.03	0.32	0.063	0.78	1.30	1.30	1.30
7-146	SLI*	Vertebrate	<0.01	0.01	<0.01	0.02	<0.01	0.10	0.13	0.145	0.16
	EPA		<0.03	<0.04	<0.02	<0.02	<0.01	0.11	0.11	0.17	0.23
7-57	SLI*	Vertebrate	0.01	0.01	0.01	0.03	<0.01	0.02	0.08	0.085	0.09
	EPA		0.029	0.46	0.046	0.18	0.022	0.088	0.825	0.825	0.825
7-148	SLI*	Vertebrate	<0.01	0.02	0.01	0.03	<0.01	0.04	0.10	0.11	0.12
	EPA		<0.05	0.37	0.031	0.11	0.020	0.18	0.711	0.736	0.761

*Reanalyzed SLI values.

Table 37. SLI-EPA Split Data for Fish Samples Processed
December 12, 1979, by SLI

TVA LAB ID	Lab	DDT (µg/g)		DDD (µg/g)		DDE (µg/g)		Total DDTR (µg/g)		
		O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	Min	Avg	Max
1M-25	EPA	5.3	6.6	29	68	14	30	153	153	153
	SLI*	1.80	2.28	17.3	45.0	6.59	20.2	93.2	93.2	93.2
1M-30	EPA	0.47	0.46	1.0	7.0	1.1	3.4	13.4	13.4	13.4
	SLI*	<0.03	0.071	0.19	1.38	0.11	0.81	2.56	2.58	2.59
1-108	EPA	<0.02	<0.03	0.025	0.10	0.023	0.11	0.258	0.283	0.308
	SLI*	<0.02	<0.02	<0.02	0.050	<0.01	0.059	0.109	0.144	0.179
1-171	EPA	0.25	0.30	2.0	3.7	0.84	1.9	8.99	8.99	8.99
	SLI*	<0.02	<0.02	0.23	0.61	0.14	0.40	1.38	1.40	1.42
1-172	EPA	<0.02	<0.03	0.014	0.054	0.024	0.083	0.175	0.1775	0.180
	SLI*	<0.02	<0.02	<0.02	0.020	<0.01	<0.01	0.00	0.05	0.10
1-115	EPA	<0.02	<0.03	0.019	0.087	0.026	0.097	0.229	0.254	0.279
	SLI	<0.03	<0.03	<0.03	<0.02	<0.02	<0.02	0.00	0.075	0.15
1M-34	EPA	0.22	<0.14	<0.10	0.066	0.13	0.20	0.750	0.804	0.856
	SLI*	<0.05	<0.05	<0.04	<0.03	<0.03	<0.03	0.000	0.12	0.23
1M-27	EPA	0.14	<0.2	0.048	0.14	0.080	0.028	0.436	0.536	0.636
	SLI*	0.09	0.09	0.04	0.13	0.05	0.23	0.63	0.63	0.63
2M-12	EPA	2.9	1.8	63	130	14	45	260	260	260
	SLI*	0.89	0.48	11.2	23.4	2.9	8.37	47.2	47.2	47.2
2M-15	EPA	<0.4	0.62	16	43	3.3	12	74.9	75.1	75.3
	SLI*	0.60	0.47	9.85	37.6	3.31	10.7	62.5	62.5	62.5

* Original data generated by SLI.

Table 38. Consolidated Valid SLI Blind Split Fish Data

TVA LAB ID	Type sample *	DDT (µg/g)		DDD (µg/g)		DDE (µg/g)		Total DDTR (µg/g)		
		O ₂ P'	P ₂ P'	O ₂ P'	P ₂ P'	O ₂ P'	P ₂ P'	Min	Avg	Max
1-008	BLI	0.020	0.030	<0.030	0.150	0.040	0.150	0.390	0.405	0.420
	ORI	0.050	0.040	0.030	0.280	0.070	0.290	0.760	0.760	0.760
1-012	BLI	<0.020	<0.020	<0.020	<0.020	0.310	0.070	0.380	0.420	0.460
	ORI	<0.020	<0.020	<0.020	<0.020	<0.010	0.020	0.020	0.065	0.110
1-017B	BLI	<0.020	<0.020	<0.020	0.230	0.057	0.280	0.567	0.597	0.627
	ORI	0.034	0.032	0.024	0.290	0.067	0.300	0.746	0.747	0.746
1-031A	BLI	<0.020	<0.020	0.042	0.160	0.076	0.160	0.438	0.458	0.478
	ORI	<0.020	<0.020	<0.020	<0.020	<0.010	0.020	0.020	0.065	0.110
1-052C	BLI	0.057	0.036	<0.020	0.048	0.064	0.067	0.272	0.282	0.292
	ORI	0.220	0.170	<0.010	0.140	0.340	0.410	1.280	1.28	1.290
1-056D	BLI	0.130	0.300	0.100	0.340	0.140	0.280	1.29	1.29	1.29
	ORI	0.070	0.160	0.060	0.100	0.100	0.190	0.680	0.680	0.680
1-067	BLI	<0.030	<0.030	<0.030	<0.020	<0.020	0.080	0.080	0.145	0.210
	ORI	<0.030	<0.030	<0.030	<0.020	<0.020	0.060	0.060	0.125	0.190
1-070	BLI	<0.030	<0.030	<0.030	<0.020	<0.020	<0.020	0.000	0.075	0.150
	ORI	<0.030	<0.030	<0.030	<0.020	<0.020	<0.020	0.000	0.075	0.150
1-078	BLI	<0.030	0.010	0.380	0.810	0.089	0.540	1.92	1.93	1.95
	ORI	<0.030	0.092	0.290	0.900	0.099	0.450	1.83	1.85	1.86
1-080D	BLI	0.024	0.051	0.093	0.780	0.400	0.610	1.96	1.96	1.96
	ORI	0.042	0.030	0.084	0.086	0.380	0.640	2.04	2.04	2.04
1-086F	BLI	<0.020	0.290	1.86	11.9	1.48	7.61	23.1	23.2	23.2
	ORI	0.240	0.330	2.15	9.11	1.14	5.83	18.8	18.8	18.8
1-089D	BLI	1.48	0.340	20.1	52.9	9.10	32.9	117	117	117
	ORI	2.61	0.180	38.8	101	17.2	58.0	218	218	218
1-095	BLI	<0.030	0.051	<0.030	0.220	0.150	0.380	0.801	0.831	0.861
	ORI	<0.030	0.066	<0.030	0.130	0.039	0.110	0.345	0.375	0.405
1-103A	BLI	0.290	0.300	2.08	5.85	1.23	4.24	14.0	14.0	14.0
	ORI	0.066	0.095	1.31	3.19	0.750	2.43	7.84	7.84	7.84
1-107E	BLI	<0.020	0.043	0.020	0.089	0.037	0.340	0.529	0.539	0.549
	ORI	0.028	0.045	0.036	0.280	0.057	0.400	0.846	0.846	0.846
1-116	BLI	<0.030	<0.030	<0.030	0.190	<0.020	0.140	0.330	0.385	0.400
	ORI	0.077	0.051	0.120	0.400	0.130	0.350	1.13	1.13	1.13
1-124D	BLI	0.022	0.029	0.140	0.330	0.110	0.330	0.961	0.961	0.961
	ORI	0.038	0.026	0.023	0.230	0.072	0.220	0.609	0.609	0.609
1-132E	BLI	<0.020	<0.020	<0.020	0.041	<0.010	0.050	0.091	0.126	0.161
	ORI	<0.020	<0.020	<0.020	<0.020	<0.010	0.010	0.010	0.055	0.100
1-163D	BLI	0.067	0.095	0.970	2.79	0.580	1.93	6.43	6.43	6.43
	ORI	0.390	0.170	2.03	5.61	1.25	4.09	13.5	13.5	13.5
1-166B	BLI	0.075	0.047	0.440	1.110	0.410	1.06	3.14	3.14	3.14
	ORI	0.043	0.061	0.370	1.02	0.380	0.930	2.80	2.80	2.80
1M-51	BLI	0.530	0.410	6.10	28.3	3.42	11.5	50.3	50.3	50.3
	ORI	0.076	0.030	0.970	4.05	0.520	1.61	7.26	7.26	7.26

Table 38 (continued)

TVA LAB ID	Type sample *	DDT (µg/g)		DDD (µg/g)		DDE (µg/g)		Total Min	DDTR (µg/g)	
		O,P'	P,P'	O,P'	P,P'	O,P'	P,P'		Avg	Max
2M-01	BLI	0.090	<0.020	<0.030	<0.020	<0.020	0.240	0.330	0.372	0.420
	ORI	0.063	<0.020	<0.020	0.180	0.035	0.140	0.418	0.438	0.458
2M-15	BLI	1.02	0.810	16.3	63.6	5.46	18.0	105	105	105
	ORI	0.190	0.130	3.40	11.6	1.15	3.37	19.8	19.8	19.8
1M-27	RR	0.05	0.05	0.03	0.09	0.03	0.13	0.38	0.38	0.38
	OV	0.13	0.12	0.046	0.16	0.073	0.32	0.849	0.849	0.849
1-072	RR	0.04	0.08	0.33	0.82	0.10	0.40	1.77	1.77	1.77
	OV	0.055	0.040	0.52	1.30	0.16	0.67	2.74	2.74	2.74
1-078	RR	0.03	0.03	0.18	0.48	0.06	0.26	1.04	1.04	1.04
	OV	<0.03	0.092	0.29	0.90	0.099	0.45	1.83	1.85	1.86
1-083	RR	0.05	0.10	0.16	0.65	0.15	1.12	2.23	2.23	2.23
	OV	<0.02	0.076	0.054	0.24	0.087	0.42	0.877	0.887	0.897
1-089	RR	3.17	2.61	41.0	115	18.2	60.4	240	240	240
	OV	2.00	2.81	17.2	66.0	8.75	33.7	130	130	130
1-109	RR	<0.02	<0.03	<0.01	0.05	<0.01	0.07	0.12	0.155	0.19
	OV	<0.02	<0.02	<0.02	0.02	<0.01	0.069	0.089	0.124	0.159
1-111	RR	0.53	0.83	6.51	31.9	3.94	21.0	64.7	64.7	64.7
	OV	1.08	1.23	5.73	21.1	2.97	15.2	47.3	47.3	47.3
1-113	RR	0.18	0.22	0.56	1.28	0.40	1.59	4.23	4.23	4.23
	OV	0.27	0.16	0.45	0.96	0.37	1.26	3.47	3.47	3.47
1-120	RR	0.05	0.05	0.14	0.52	0.10	0.49	1.35	1.35	1.35
	OV	<0.02	<0.02	0.14	0.49	0.079	0.28	0.99	1.01	1.03
1-132	RR	0.10	0.26	0.60	3.87	0.24	2.62	7.69	7.69	7.69
	OV	0.17	0.35	0.59	3.89	0.26	3.21	8.47	8.47	8.47
1-021	OV	<0.02	<0.02	<0.02	0.06	0.09	0.23	0.38	0.41	0.44
	BS	<0.02	0.12	<0.02	0.11	0.15	0.33	0.71	0.73	0.75
1-037	OV	<0.02	0.12	0.08	0.26	0.06	0.35	0.87	0.88	0.89
	BS	<0.02	<0.02	0.06	0.26	0.06	0.35	0.71	0.73	0.75
1-138	OV	0.33	0.45	1.93	3.87	0.62	2.07	9.27	9.27	9.27
	BS	0.25	0.45	0.97	1.95	0.33	1.44	5.39	5.39	5.39
1-157	OV	0.07	0.14	0.06	0.15	0.04	0.19	0.65	0.65	0.65
	BS	0.08	0.11	0.07	0.23	0.10	0.48	1.07	1.07	1.07
1-143	OV	0.05	<0.02	0.64	2.30	0.34	1.00	4.33	4.34	4.35
	BS	0.05	<0.02	0.59	2.16	0.33	0.92	4.05	4.06	4.07
1-156	OV	<0.02	<0.02	<0.02	0.05	0.01	0.04	0.11	0.14	0.16
	BS	<0.02	<0.02	<0.02	0.04	<0.01	0.03	0.07	0.10	0.14
1-051	OV	0.04	0.12	0.12	0.22	0.14	0.45	1.09	1.09	1.09
	BS	<0.02	0.04	0.03	0.08	0.05	0.14	0.34	0.35	0.36
1M-07	OV	1.00	1.18	4.11	11.0	2.45	10.1	29.8	29.8	29.8
	BS	<0.04	0.55	2.49	7.22	1.41	6.40	18	18	18.1
1M-24	OV	<0.02	<0.02	<0.02	0.26	0.20	0.64	19.2	19.2	19.2
	BS	0.09	0.11	0.17	0.59	0.42	1.04	2.42	2.42	2.42
1M-37	OV	5.75	7.56	56.4	210	27.9	95.9	404	404	404
	BS	5.15	7.00	52.6	196	25.7	87.6	374	374	374
1M-43	OV	0.87	0.50	12.5	40.1	5.92	20.0	80	80	80
	BS	1.04	0.67	16.1	50.1	7.59	25.2	101	101	101

* BLI - Blind sample.

ORI - Regular original sample.

RR - Reanalyzed SLI value.

OV - Original SLI value.

BS - Blind split.

Table 39. Complete Listing of All SLI-EPA Fish Split Data

TVA LAB ID	Lab	DDT ($\mu\text{g/g}$)		DDD ($\mu\text{g/g}$)		DDE ($\mu\text{g/g}$)		Total DDTR ($\mu\text{g/g}$)		
		O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	Min	Avg	Max
1-017D	EPA	0.22	0.17	0.40	0.95	0.25	0.76	2.75	2.75	2.75
	SLI	0.14	0.13	0.37	0.81	0.19	0.66	2.30	2.30	2.30
1-017F	EPA	0.050	<0.20	0.12	1.80	0.34	1.4	3.71	3.81	3.91
	SLI	0.035	0.087	0.076	1.02	0.21	0.81	2.34	2.24	2.24
1-052B	EPA	0.46	<0.35	<0.10	0.31	0.087	0.44	1.30	1.52	1.75
	SLI	0.10	0.052	<0.02	0.10	0.099	0.18	0.531	0.541	0.551
1-056D	EPA	0.19	<0.030	0.21	0.48	0.12	0.36	1.36	1.51	1.66
	SLI	0.13	0.30	0.10	0.34	0.14	0.28	1.29	1.29	1.29
	SLI	0.070	0.16	0.060	0.10	0.10	0.19	0.68	0.68	0.68
1-08D	EPA	<0.50	0.53	9.9	27	4.8	8.8	51.0	51.3	51.5
	SLI	0.35	0.25	10.3	20.1	4.19	8.81	44.0	44.0	44.0
1-089D	EPA	<5	<5	30	97	20	46	193	198	203
	SLI	1.48	0.34	20.1	52.9	9.1	32.9	117	117	117
	SLI	2.61	0.18	38.8	101	17.2	58.0	218	218	218
1-130B	EPA	<0.020	<0.020	0.080	0.34	0.06	0.32	0.80	0.82	0.84
	SLI	<0.020	<0.02	0.031	0.15	0.015	0.14	0.336	0.336	0.336
1-132C	EPA	<1.0	<2.0	0.79	9.6	1.0	7.0	19.4	19.9	21.4
	SLI	0.41	0.54	0.82	6.81	0.68	5.08	14.3	14.3	14.3
1-138A	EPA	<0.08	0.12	0.30	0.68	0.14	0.24	1.48	1.52	1.56
	SLI	0.091	0.490	3.02	5.20	0.86	2.20	11.9	11.9	11.9
1-086	EPA	0.29	0.22	0.80	2.8	0.60	1.8	6.51	6.51	6.51
	SLI	0.58	0.70	1.17	5.66	0.98	3.70	12.8	12.8	12.8
1-113	EPA	0.31	0.36	0.30	0.75	0.37	1.2	3.29	3.29	3.29
	SLI	0.27	0.16	0.45	0.96	0.37	1.26	3.47	3.47	3.47
	SLI	0.18	0.22	0.56	1.28	0.40	1.59	4.23	4.23	4.23
1-109	EPA	<0.03	<0.04	<0.03	0.33	0.12	0.078	0.123	0.153	0.223
	SLI	<0.020	<0.020	<0.020	0.02	<0.010	0.069	0.089	0.124	0.159
	SLI	<0.02	<0.03	<0.01	0.05	<0.01	0.07	0.12	0.115	0.19

Table 39 (continued)

TVA LAB ID	Lab	DDT (µg/g)		DDD (µg/g)		DDE (µg/g)		Total Min	DDTR (µg/g)	
		O,P'	P,P'	O,P'	P,P'	O,P'	P,P'		Avg	Max
1-098	EPA	0.25	1.0	1.9	3.9	0.75	1.6	9.40	9.40	9.40
	SLI	<0.02	0.12	<0.02	0.19	0.063	0.43	0.803	0.823	0.843
1-078	EPA	<0.07	0.045	0.38	0.40	0.14	0.27	1.24	1.27	1.30
	SLI	<0.03	0.010	0.38	0.81	0.089	0.54	1.92	1.93	1.95
	SLI	<0.03	0.092	0.29	0.90	0.099	0.45	1.83	1.85	1.86
1M-34	EPA	0.22	0.14	<0.10	0.066	0.13	0.20	0.756	0.806	0.856
	SLI	<0.05	<0.05	<0.04	<0.03	<0.03	<0.03	0.000	0.12	0.23
1-029	SLI	<0.02	<0.03	<0.01	<0.01	<0.01	<0.01	0.0	0.045	0.09
	EPA	<0.02	<0.02	<0.01	<0.01	<0.01	<0.007	0.0	0.0385	0.077
1-034	SLI	<0.02	<0.03	<0.01	<0.01	<0.01	0.01	0.0	0.045	0.09
	EPA	<0.6	<0.5	<1	<1	<1	<1	0.0	2.55	5.1
1-036	SLI	0.09	0.17	0.29	0.72	0.21	0.66	2.14	2.14	2.14
	EPA	0.062	0.066	0.12	0.34	0.14	0.37	1.10	1.10	1.10
	EPA	0.30	1.7	0.39	0.67	0.38	0.50	3.94	3.94	3.94
1-038	SLI	<0.02	<0.03	<0.01	<0.01	<0.01	0.01	0.01	0.05	0.09
	EPA	<0.02	<0.02	<0.01	<0.01	<0.01	<0.006	0.0	0.038	0.076
1-064	SLI	0.12	0.18	0.04	0.05	0.06	0.12	0.57	0.57	0.57
	EPA	<0.01	<0.07	<0.04	0.056	0.057	0.11	0.223	0.283	0.343
	SLI	1.08	1.23	5.73	21.1	2.97	15.2	47.3	47.3	47.3
1-111	SLI	0.53	0.83	6.51	31.9	3.94	21.0	64.7	64.7	64.7
	EPA	<1	<3	5.2	26	2.4	16	49.6	51.6	53.6
1-151	SLI	<0.05	<0.06	<0.03	0.05	<0.02	0.07	0.12	0.2	0.28
	EPA	<0.03	<0.05	<0.03	0.050	0.032	0.056	0.138	0.193	0.248
	EPA	0.03	0.05	0.02	0.026	0.025	0.054	0.105	0.155	0.205
1-165	SLI	0.03	<0.03	0.03	0.16	0.03	0.09	0.34	0.355	0.37
	EPA	0.040	<0.3	0.24	0.69	0.094	0.33	1.39	1.54	1.69
1-168	SLI	0.05	<0.06	<0.02	0.62	0.06	0.75	1.48	1.52	1.56
	EPA	<0.05	0.064	0.031	0.88	0.17	1.3	2.45	2.47	2.50
1M-7	SLI	1.00	1.18	4.11	11.0	2.45	10.1	29.8	29.8	29.8
	SLI	1.00	1.07	5.63	16.9	3.26	14.2	42.1	42.1	42.1
	EPA	0.87	0.57	5.8	21	4.0	14	46.2	46.2	46.2
	EPA	2.2	2.2	7.4	26	5.2	18	61	61	61

Table 39 (continued)

TVA LAB ID	Lab	DDT (µg/g)		DDD (µg/g)		DDE (µg/g)		Total DDTR (µg/g)		
		O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	Min	Avg	Max
1M-8	SLI	<1.7	3.33	5.86	38.4	5.36	30.1	83.0	83.9	84.0
	EPA	3.1	2.3	8.3	56	9.4	43	122	122	122
	EPA	<2	<4	10	89	8.2	57	162	165	168
1M-10	SLI	1.49	1.64	12.6	52.3	7.57	33.7	109	109	109
	EPA	8.4	9.5	18	83	16	65	200	200	200
	EPA	2.1	<3	14	60	12	41	129	131	132
	SLI	0.13	0.12	0.046	0.16	0.073	0.32	0.849	0.849	0.849
1M-27	SLI	0.05	0.05	0.03	0.09	0.03	0.13	0.38	0.38	0.38
	EPA	0.14	0.2	0.048	0.14	0.080	0.028	0.436	0.536	0.636
1M-38	SLI	4.69	6.22	83.7	256	32.0	123	506	506	506
	EPA	14	10	100	310	66	150	650	650	650
1M-43	SLI	0.87	0.50	12.5	40.1	5.92	20.0	79.4	79.4	79.4
	EPA	1.7	<2	15	48	10	20	94.7	95.7	96.7
1M-12	SLI	0.48	0.46	0.66	2.29	0.90	2.64	7.43	7.43	7.43
	EPA	1.10	0.61	1.00	4.80	1.50	4.60	13.6	13.6	13.6
1M-19	SLI	0.77	0.62	0.33	0.90	0.41	1.01	4.04	4.04	4.04
	EPA	2.00	0.65	0.77	2.00	0.81	1.50	7.73	7.73	7.73
1M-21	SLI	0.54	0.27	1.10	4.50	0.92	3.47	10.8	10.8	10.8
	EPA	1.20	0.58	1.90	8.30	2.30	5.20	19.5	19.5	19.5
1M-22	SLI	0.50	0.44	0.30	0.96	0.70	1.11	4.01	4.01	4.01
	EPA	0.76	0.19	0.47	2.3	0.90	1.6	6.22	6.22	6.22
1-23	SLI	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	0.00	0.05	0.10
	EPA	<0.02	<0.03	<0.01	<0.01	<0.008	<0.007	0.0	0.042	0.085
1-61	SLI	<0.02	<0.02	<0.02	0.08	0.13	0.25	0.46	0.49	0.52
	EPA	0.090	0.074	0.040	0.11	0.071	0.18	0.565	0.565	0.565
1-103	SLI	<0.02	<0.02	1.21	3.84	0.73	3.25	9.03	9.05	9.07
	EPA	1.2	1.1	2.5	10.0	3.2	7.4	25.4	25.4	25.4

Table 39 (continued)

TVA LAB ID	Lab	DDT (µg/g)		DDD (µg/g)		DDE (µg/g)		Total Min	DDTR (µg/g)	
		O,P'	P,P'	O,P'	P,P'	O,P'	P,P'		Avg	Max
1-142	SLI	0.05	0.04	0.61	1.65	0.25	0.89	3.49	3.49	3.49
	EPA	<0.1	<0.2	0.45	1.4	0.29	0.73	2.87	3.02	3.17
1-146	SLI	<0.02	<0.02	<0.02	0.04	<0.01	0.12	0.16	0.195	0.23
	EPA	<0.02	<0.03	<0.008	0.009	<0.005	0.046	0.055	0.086	0.118
1M-20	SLI	0.28	0.40	0.30	2.50	0.54	1.93	5.95	5.95	5.95
	EPA	1.6	0.20	0.64	3.5	1.1	2.8	9.84	9.84	9.84
1M-25	EPA	5.3	6.6	29	68	14	30	153	153	153
	SLI	1.80	2.28	17.3	45.0	6.59	20.2	93.2	93.2	93.2
1M-30	EPA	0.47	0.46	1.0	7.0	1.1	3.4	13.4	13.4	13.4
	SLI	<0.03	0.071	0.19	1.38	0.11	0.81	2.56	2.58	2.59
1-108	EPA	<0.02	<0.03	0.025	0.10	0.023	0.11	0.258	0.283	0.308
	SLI	<0.02	<0.02	<0.02	0.050	0.01	0.059	0.109	0.144	0.179
1-171	EPA	0.25	0.30	2.0	3.7	0.84	1.9	8.99	8.99	8.99
	SLI	<0.02	<0.02	0.23	0.61	0.14	0.40	1.38	1.40	1.42
1-172	EPA	<0.02	<0.03	0.014	0.054	0.024	0.083	0.175	0.1775	0.180
	SLI	<0.02	<0.02	<0.02	0.020	<0.01	<0.01	0.00	0.05	0.10
1-115	EPA	<0.02	<0.03	0.019	0.087	0.026	0.097	0.229	0.254	0.279
	SLI	<0.03	<0.03	<0.03	<0.02	<0.02	<0.02	0.00	0.075	0.15
1-58	EPA	<0.03	<0.04	<0.02	<0.1	0.22	0.065	0.285	0.38	0.475
	SLI	0.05	0.05	0.06	0.20	0.07	0.16	0.59	0.59	0.59
2M-12	EPA	2.9	1.8	63	130	14	45	260	260	260
	SLI	0.89	0.48	11.2	23.4	2.90	8.37	47.2	47.2	47.2
2M-15	EPA	<0.4	0.62	16	43	3.3	12	74.9	75.1	75.3
	SLI	0.19	0.13	3.40	11.6	1.15	3.37	19.8	19.8	19.8
	SLI	1.02	0.81	16.3	63.6	5.46	18.0	105	105	105
1-26	EPA	0.92	0.32	0.57	1.8	0.64	1.60	5.85	5.85	5.85
	SLI	0.23	0.26	0.31	1.56	0.35	1.19	3.90	3.90	3.90
1-50	EPA	0.088	0.045	0.052	0.19	0.12	0.22	0.715	0.715	0.715
	SLI	0.09	0.03	0.12	0.51	0.10	0.35	1.20	1.20	1.20
1-53	EPA	0.04	0.042	0.027	0.099	0.053	0.26	0.521	0.521	0.521
	SLI	0.02	0.08	0.02	0.06	0.03	0.18	0.39	0.39	0.39
1-144	EPA	<0.02	<0.05	<0.02	0.019	<0.02	0.054	0.073	0.133	0.193
	SLI	<0.02	<0.02	<0.01	0.01	<0.01	0.01	0.020	0.050	0.180

Table 40. Special Study - DDT Concentration Gradients in Fish Fillets

- I. Sample Description: Channel catfish (472 mm long, 790 g total weight, 140 g fillet weight) from Indian Creek mile 1.0 on 9/12/79.

Fillet Quarter

No.	Length (mm)	DDT (µg/g)		DDD (µg/g)		DDE (µg/g)		DDTR ^a (µg/g)	Lipids (%)
		O,P'	P,P'	O,P'	P,P'	O,P'	P,P'		
1 ^b	65	1.31	1.75	20.6	62.5	7.39	27.4	121	0.60
2	65	4.50	5.38	66.9	189	22.5	70.0	358	1.55
3	65	4.28	3.65	49.7	139	16.0	53.1	266	1.29
4	65	7.28	8.52	120	321	40.8	124	622	3.32

- II. Sample Description: Smallmouth buffalo (380 mm long, 970 g total weight, 150 g fillet weight) from Indian Creek mile 1.0 on 9/12/79.

Fillet Quarter

No.	Length (mm)	DDT (µg/g)		DDD (µg/g)		DDE (µg/g)		DDTR ^a (µg/g)	Lipids (%)
		O,P'	P,P'	O,P'	P,P'	O,P'	P,P'		
1 ^b	62	0.21	<0.06 ^c	19.1	41.8	5.70	16.6	83.4	7.08
2	62	0.81	0.76	25.0	52.2	6.52	20.7	106	8.91
3	62	0.64	0.53	11.5	53.1	3.39	7.95	77.1	4.24
4	62	0.92	1.07	22.7	50.3	8.39	16.2	99.6	8.27

- III. Sample Description: Largemouth bass (390 mm long, 970 g total weight, 160 g fillet weight) from Indian Creek mile 1.0 on 9/12/79.

Fillet Quarter

No.	Length (mm)	DDT (µg/g)		DDD (µg/g)		DDE (µg/g)		DDTR ^a (µg/g)	Lipids (%)
		O,P'	P,P'	O,P'	P,P'	O,P'	P,P'		
1 ^b	57	0.61	<0.6 ^c	2.78	5.44	0.87	2.61	12.3	0.27
2	57	0.11	0.18	1.58	3.63	0.49	1.83	7.62	0.17
3	57	0.43	0.67	3.36	6.58	0.96	3.07	15.1	0.36
4	57	<0.9 ^c	0.91	2.05	3.86	0.53	1.89	9.2	0.18

^aAll analyses performed by SLI.

^bHead end.

^cHigher detection limit was used because of interferences.

Table 41. Special Study - Migration of Lipids Within the "Pooled" Fish Samples

Sample identification or appearance	Type sample*	% Lipids		Total DDTR (µg/g)	
		EPA	SLI	EPA	SLI
Outside ring only**	Low QC	9.1	8.49	3.9	6.92
Outer half minus ring**	Low QC	6.3	6.15	3.5	4.21
Inner half only	Low QC	6.6	3.84	4.1	2.39
Sample contained large outside ring	Low QC	6.3	5.03	3.9	3.86
Sample contained medium outside ring	Low QC	5.9	5.16	2.6	3.23
Sample contained small outside ring	Low QC	6.5	5.02	2.8	3.32
Surface removed, and remainder of sample analyzed	Low QC	-	3.55	-	2.73
Extreme - whole surface covered	High QC	2.7	1.75	280	222
25 to 75% of surface covered	High QC	2.6	2.29	240	349
5 to 25% of surface covered	High QC	2.5	2.53	250	365
Ring only	High QC	2.4	2.52	280	347
Ring only	High QC	2.6	2.56	260	315
White only analyzed	High QC	<0.6	5.37	210	447

*Low QC - Low concentration of "pooled" fish sample.

High QC - High concentration of "pooled" fish sample.

**See Figure 3.

Table 42. SLI Blind Split Vertebrate Data

TVA LAB ID	Type sample*	DDT (µg/g)		DDD (µg/g)		DDE (µg/g)		Total DDTR (µg/g)	
		O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	Minimum	Average Maximum
7-015	BLI	0.440	0.290	<0.030	0.360	0.091	4.77	5.95	5.97
	ORI	0.190	<0.030	<0.030	0.260	0.069	1.56	2.08	2.14
7-024	BLI	<0.030	0.093	0.130	0.680	0.210	1.37	2.50	2.52
	ORI	<0.030	<0.030	0.320	3.220	0.430	2.67	6.64	6.70
7-038	BLI	<0.030	0.140	0.570	2.180	0.660	4.10	7.65	7.66
	ORI	<0.030	<0.030	0.180	0.590	0.180	1.28	2.23	2.26
7-050	BLI	<0.030	<0.030	<0.030	0.063	<0.020	0.09	0.153	0.208
	ORI	<0.030	<0.030	<0.030	<0.020	<0.020	<0.020	0.000	0.075
7-063	BLI	<0.030	<0.030	<0.030	<0.020	<0.020	<0.020	0.000	0.075
	ORI	<0.030	<0.030	<0.030	<0.020	<0.020	<0.020	0.000	0.075
7-089	BLI	<0.040	<0.040	<0.040	<0.020	<0.030	<0.020	0.000	0.095
	ORI	<0.040	<0.030	<0.030	<0.020	<0.020	<0.020	0.000	0.080
7-102	BLI	<0.040	0.036	<0.030	0.280	<0.020	1.39	1.71	1.80
	ORI	0.063	0.065	0.150	0.90	0.092	5.07	6.34	6.34
7-112	BLI	<0.020	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.500
	ORI	<0.030	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.055
7-114	BLI	0.092	<0.020	<0.020	<0.020	<0.020	<0.010	0.092	0.137
	ORI	0.059	<0.030	<0.020	<0.020	<0.020	<0.010	0.059	0.084
7-132	BLI	<0.030	<0.030	<0.030	<0.020	<0.020	<0.020	0.000	0.075
	ORI	0.053	<0.030	<0.030	<0.020	<0.020	0.029	0.082	0.132
7-365	BLI	<0.030	<0.030	<0.030	<0.020	<0.020	0.100	0.100	0.165
	ORI	<0.030	<0.030	<0.030	<0.020	<0.020	0.072	0.072	0.137

* BLI - Blind sample.

ORI - Regular original sample.

Table 43. SLI-EPA Split Vertebrate Data

TVA LAB ID	Lab	DDT ($\mu\text{g/g}$)		DDD ($\mu\text{g/g}$)		DDE ($\mu\text{g/g}$)		Minimum	Total DDTR ($\mu\text{g/g}$)	
		O,P'	P,P'	O,P'	P,P'	O,P'	P,P'		Average	Maximum
7-010	EPA	0.047	0.04	<0.030	0.045	0.038	0.510	0.687	0.702	0.717
	SLI	<0.030	<0.030	<0.030	<0.020	<0.020	0.049	0.049	0.114	0.179
7-024	EPA	<2.000	0.590	1.40	18.0	2.70	15.0	37.7	38.7	39.7
	SLI	<0.030	<0.030	0.320	3.22	0.430	2.67	4.41	4.42	4.44
7-033	EPA	0.110	<0.200	<0.050	0.067	0.069	1.20	1.45	1.57	1.70
	SLI	<0.030	<0.030	<0.030	<0.020	<0.020	0.170	0.170	0.235	0.300
7-036S	EPA	<0.030	<0.040	<0.020	<0.010	<0.020	0.036	0.036	0.086	0.156
	SLI	<0.030	<0.030	<0.030	<0.020	<0.020	0.072	0.080	0.145	0.210
7-040T	EPA	<0.030	<0.040	0.015	0.051	0.015	0.480	0.560	0.596	0.631
	SLI	<0.020	<0.020	<0.020	0.093	0.022	0.400	0.515	0.545	0.575
7-044	EPA	3.60	18.0	1.40	2.10	0.320	1.10	26.5	26.5	26.5
	SLI	<0.030	<0.030	<0.030	<0.020	<0.020	0.080	0.150	0.260	0.370
7-065	EPA	<0.030	<0.040	<0.020	<0.010	<0.020	<0.010	0.000	0.065	0.130
	SLI	<0.020	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.050	0.100
7-074	EPA	0.035	0.037	<0.008	<0.010	0.004	0.018	0.084	0.093	0.102
	SLI	<0.020	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.050	0.100
7-082	EPA	0.081	1.80	0.14	0.990	0.032	0.096	3.14	3.14	3.14
	SLI	<0.020	<0.020	<0.020	<0.020	<0.010	0.010	0.010	0.055	0.100
7-086	EPA	<0.008	<0.010	<0.005	<0.005	<0.003	0.007	0.007	0.022	0.038
	SLI	<0.020	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.050	0.100
7-060	EPA	0.040	<0.060	0.130	0.310	0.087	3.20	3.77	3.80	3.83
	SLI	<0.020	<0.020	0.033	0.093	<0.010	0.780	0.906	0.931	0.956
7-106	EPA	0.035	0.069	0.030	0.320	0.063	0.780	1.30	1.30	1.30
	SLI	<0.020	<0.020	<0.020	0.130	<0.010	0.300	0.430	0.465	0.500
7-146	EPA	<0.030	<0.040	<0.020	<0.020	<0.010	0.110	0.110	0.170	0.230
	SLI	<0.020	0.460	0.047	0.140	0.011	0.060	0.118	0.728	0.738
7-057	EPA	0.029	0.460	0.046	0.180	0.022	0.088	0.825	0.825	0.825
	SLI	<0.020	<0.020	<0.020	<0.020	<0.010	<0.130	0.000	0.110	0.220
7-148	EPA	<0.050	0.370	0.031	0.110	0.020	0.180	0.711	0.736	0.761
	SLI	<0.020	0.061	<0.020	0.036	<0.010	0.074	0.171	0.196	0.221

Table 44. Macroinvertebrate SLI Blind Split Sample Data

TVA LAB ID	Type sample*	DDT ($\mu\text{g/g}$)		DDD ($\mu\text{g/g}$)		DDE ($\mu\text{g/g}$)		P,P'		Total DDTR ($\mu\text{g/g}$)	
		O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	Minimum	Maximum
5-003	BLI	0.020	0.009	0.400	0.730	0.230	0.510	1.90	1.90	1.90	1.90
	ORI	0.020	0.010	0.530	0.900	0.270	0.660	2.39	2.39	2.39	2.39
5-004	BLI	0.010	0.010	0.550	0.820	0.290	0.620	2.30	2.30	2.30	2.30
	ORI	0.010	0.020	0.570	0.950	0.320	0.740	2.61	2.61	2.61	2.61
5-047	BLI	<0.006	0.020	0.330	0.660	0.150	0.360	1.52	1.52	1.52	1.52
	ORI	<0.006	0.020	0.450	0.950	0.180	0.460	2.06	2.06	2.06	2.06

* BLI - Blind sample.
ORI - Regular original sample.

Table 45. Plant SLI Blind Split Sample Data

TVA LAB ID	Type sample*	DDT (ug/g)		DDD (ug/g)		DDE (ug/g)		Total DDTR (ug/g)	
		O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	Minimum	Average Maximum
5-125	BLI	0.002	0.002	0.020	0.047	0.003	0.013	0.087	0.087
	ORI	0.001	0.002	0.014	0.030	0.003	0.007	0.057	0.057
5-135	BLI	0.001	0.004	0.004	0.009	0.005	0.008	0.031	0.031
	ORI	0.011	0.004	0.005	0.002	0.005	0.013	0.040	0.040
5-157	BLI	<0.001	0.002	0.008	0.016	0.002	0.006	0.034	0.035
	ORI	0.001	0.008	0.016	0.034	0.004	0.011	0.074	0.074
5-162	BLI	<0.001	0.002	<0.001	0.001	0.001	0.001	0.005	0.007
	ORI	<0.001	<0.002	<0.001	<0.001	0.001	0.001	0.002	0.004
5-210	BLI	<0.001	<0.002	<0.001	<0.001	<0.001	<0.001	0.000	0.003
	ORI	<0.001	<0.002	<0.001	<0.001	<0.001	<0.001	0.000	0.003

* BLI - Blind sample.
ORI - Regular original sample.

Table 46. SLI-EPA Split Macroinvertebrate Data

TVA LAB ID	Lab	DDT ($\mu\text{g/g}$)		DDD ($\mu\text{g/g}$)		DDE ($\mu\text{g/g}$)		Total DDTR ($\mu\text{g/g}$)		
		O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	Min	Avg	Max
5-003	EPA	<0.100	<0.040	1.20	2.20	1.10	2.40	6.90	6.97	7.04
	SLI	0.020	0.010	0.530	0.900	0.270	0.660	2.39	2.39	2.39
5-004	EPA	<0.080	<0.040	0.780	1.30	0.660	1.50	4.24	4.29	4.36
	SLI	0.010	0.020	0.570	0.950	0.320	0.740	2.61	2.61	2.61
5-047	EPA	<0.080	0.033	0.430	0.880	0.300	0.500	2.14	2.18	2.22
	SLI	<0.006	0.020	0.450	0.950	0.180	0.460	2.06	2.06	2.06

Table 47. SLI-EPA Split Aufwuchs Data

TVA LAB ID	Lab	DDT (µg/g)		DDD (µg/g)		DDE (µg/g)		Total DDTR (µg/g)		
		O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	Min	Avg	Max
5-188	EPA	<0.100	0.120	0.050	0.160	0.030	0.096	0.456	0.506	0.556
	SLI	0.003	0.010	0.074	0.170	0.020	0.081	0.358	0.358	0.358

Table 48. SLI-EPA Split Plant Data

TVA LAB ID	Lab	DDT ($\mu\text{g/g}$)		DDD ($\mu\text{g/g}$)		DDE ($\mu\text{g/g}$)		Total DDTR ($\mu\text{g/g}$)		
		O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	Min	Avg	Max
5-120	EPA	0.004	<0.009	0.003	0.011	0.002	0.005	0.024	0.028	0.033
	SLI	<0.001	<0.002	0.003	0.005	0.001	0.002	0.011	0.012	0.014
5-133	EPA	<0.005	0.007	0.004	0.021	0.007	0.007	0.045	0.047	0.050
	SLI	0.002	0.004	0.005	0.013	0.008	0.007	0.039	0.039	0.039
5-139	EPA	0.005	0.017	0.015	0.022	0.012	0.016	0.087	0.087	0.087
	SLI	0.011	0.028	0.032	0.040	0.010	0.033	0.154	0.154	0.154
5-148	EPA	0.007	0.020	0.098	0.150	0.032	0.100	0.407	0.407	0.407
	SLI	0.024	0.049	0.230	0.320	0.061	0.210	0.894	0.804	0.894
5-152	EPA	0.001	0.005	0.013	0.060	0.008	0.027	0.114	0.114	0.114
	SLI	0.002	0.004	0.020	0.046	0.005	0.012	0.089	0.089	0.089
5-210	EPA	0.008	<0.006	0.019	0.052	0.006	0.012	0.097	0.100	0.103
	SLI	<0.001	<0.002	<0.001	<0.001	<0.001	<0.001	0.000	0.003	0.007

ATTACHMENT 2

FIGURES

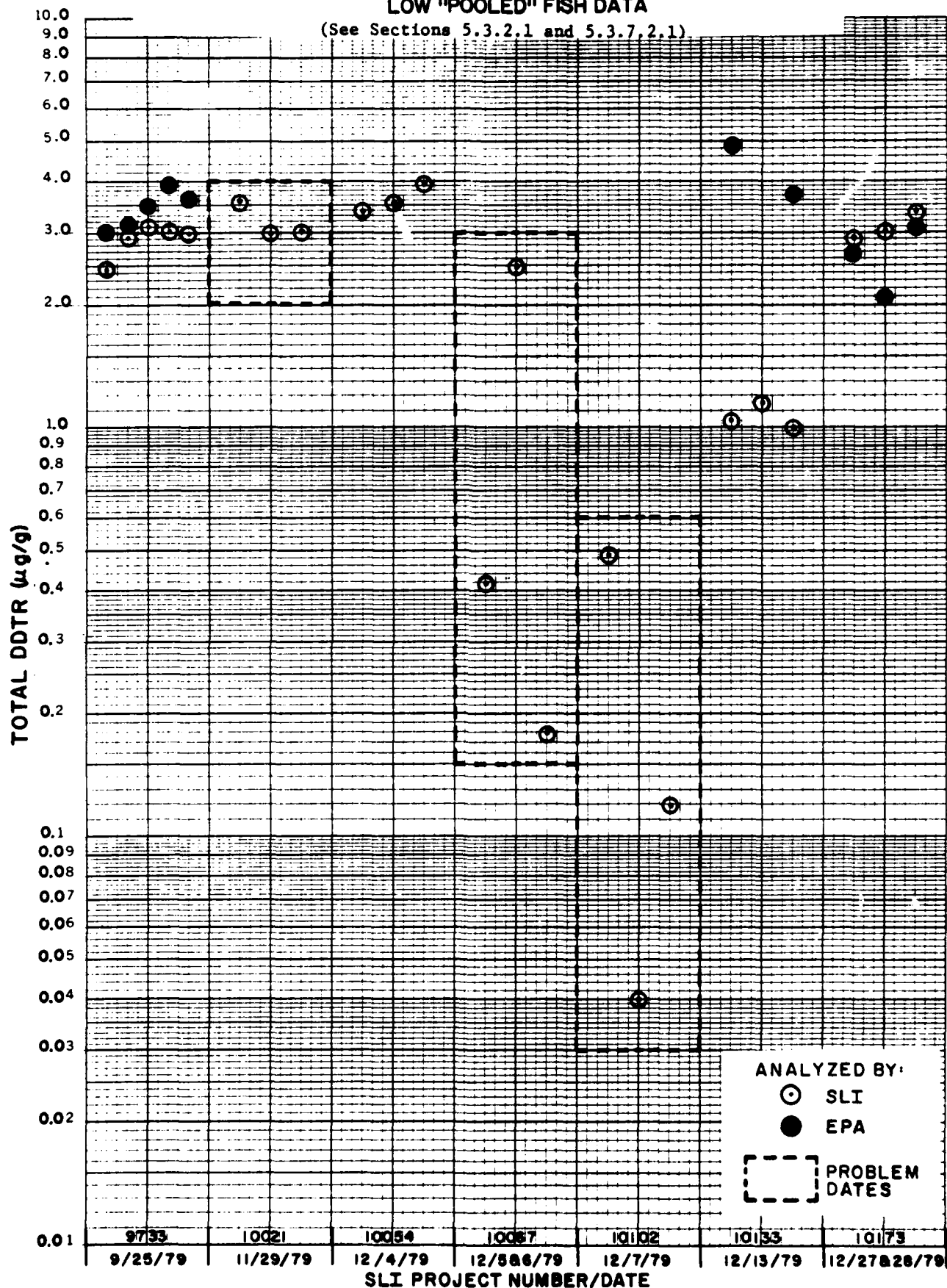
FIGURES

Number

- 1 Low "Pooled Fish Data
- 2 High "Pooled" Fish Data
- 3 Sample Identification Diagram for Migration of Lipids Experiment

FIGURE 1
LOW "POOLED" FISH DATA

(See Sections 5.3.2.1 and 5.3.7.2.1)



(See Sections 5.3.2.1 and 5.3.7.2.1)

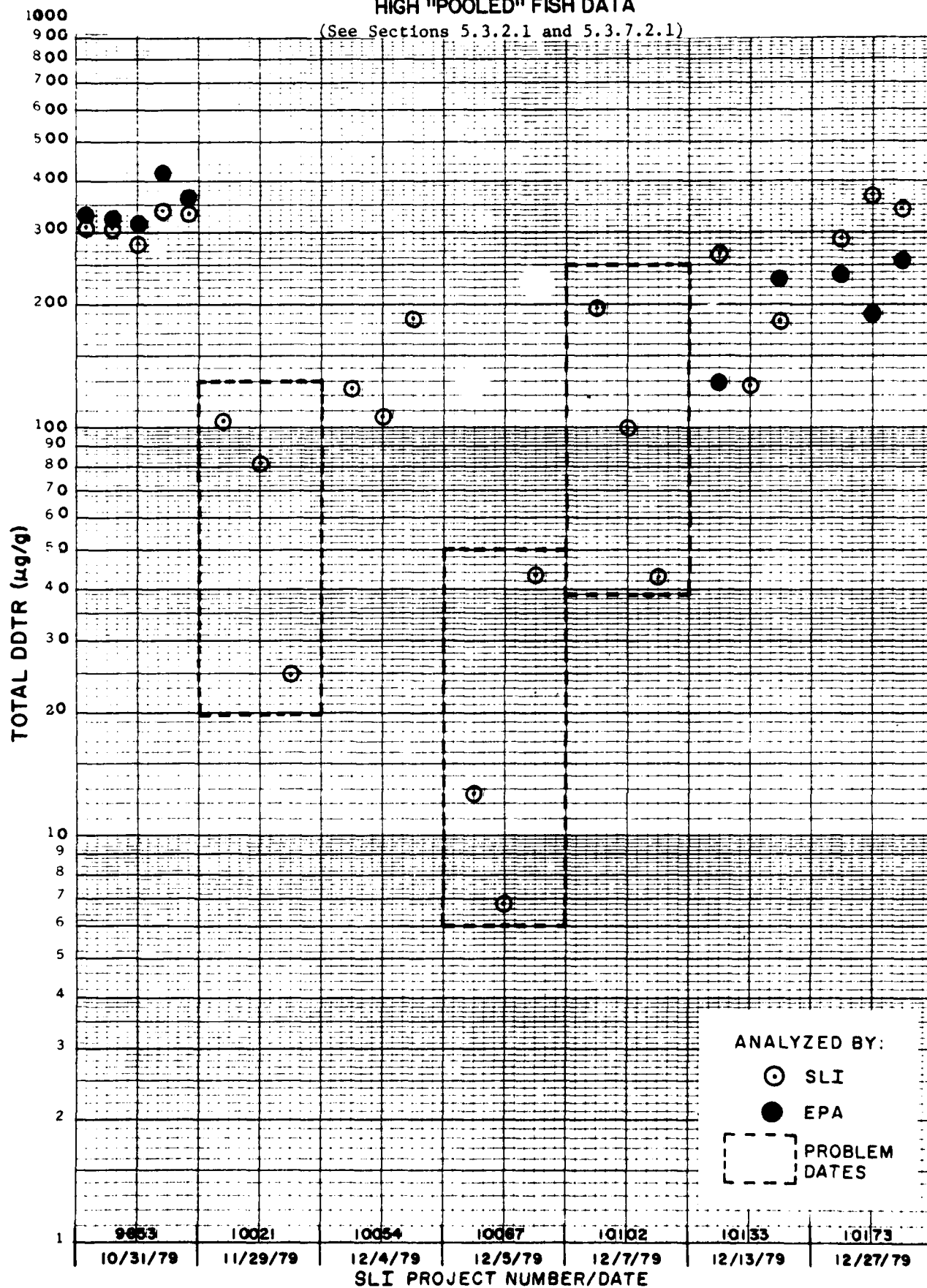
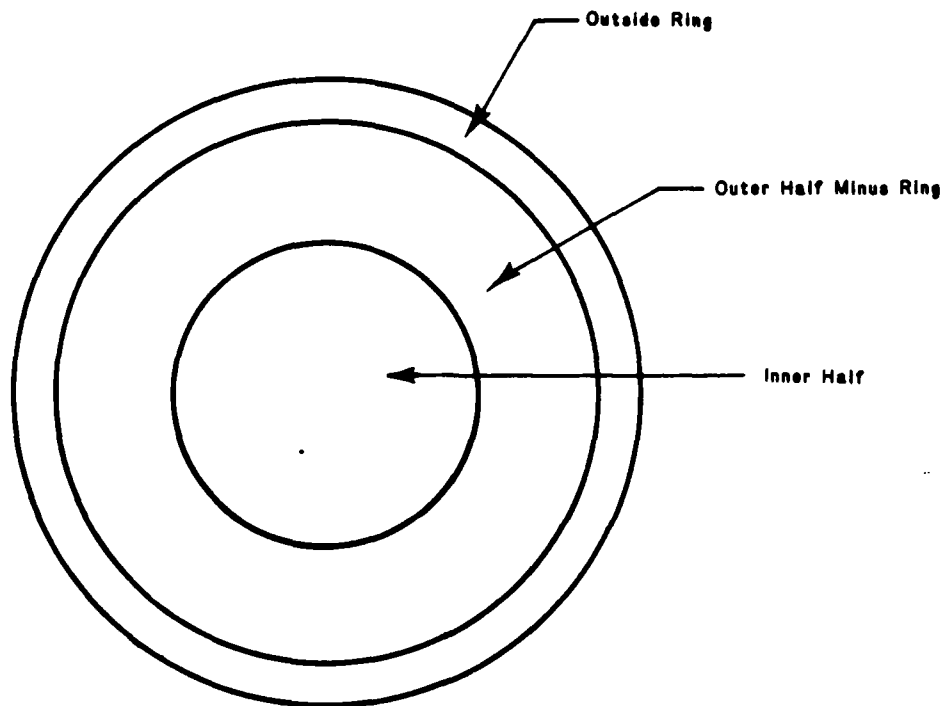


FIGURE 3

SAMPLE IDENTIFICATION DIAGRAM FOR MIGRATION OF LIPIDS EXPERIMENT

(See Section 5.3.7.2.2)



ATTACHMENT 3

ANALYTICAL METHODOLOGY

ANALYTICAL METHODOLOGY

1.0 Water

1.1 DDT

1.1.1 Applicable Documents

- 1.1.1.1 "Determination of Organochlorine Pesticides in Industrial Effluents," 40 CFR 136, December 1, 1976.
- 1.1.1.2 "Sampling and Analysis Procedures for Screening of Industrial Effluents in Priority Pollutants," (1977), U.S. Environmental Protection Agency, EMSL, Cincinnati, OH 45268.
- 1.1.1.3 "Methods for Organochlorine Pesticides in Drinking Water," (1978), U.S. Environmental Protection Agency, EMSL, Cincinnati, OH 45268.

1.1.2 Summary of Method (EPA and SLI)

- 1.1.2.1 A 1-liter sample of water is extracted with 15% methylene chloride in hexane. The extract is dried, concentrated to a volume of 10 mL and injected into a packed gas chromatographic column (1.5% SP-2250/1.95% SP 2401). Components are separated as they pass through the column and their presence is detected and measured with a Ni⁶³ electron capture detector.
- 1.1.2.2 In the event interferences are encountered, the method provides selected general purpose cleanup procedures to aid in their elimination.
- 1.1.2.3 Sample Size--One liter for each measurement; 2 liters are usually collected for quality control work and a reserve.
- 1.1.2.4 Minimum Detectable Amount--Method sensitivity is 0.01 to 0.03 µg/L for the DDT isomers and metabolites when analyzing a 1 liter sample.

1.1.2.5 Methodology Modification--During the course of the contract a method modification, as requested by the Project Officer, was made. Twenty-five (25) mL of a saturated sodium chloride solution was added to all water samples prior to solvent extraction.

1.2 Other Parameters

1.2.1 Applicable Documents

1.2.1.1 Methods for Chemical Analysis of Water and Wastes, Environmental Protection Agency, Water Quality Office, Cincinnati, Ohio, 1974.

1.2.1.2 "Interim Methods for Metals in Drinking Water," Environmental Protection Agency, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio, April 1978.

1.2.1.3 "Sampling and Analysis Procedures for Screening of Industrial Effluents for Priority Pollutants," Environmental Protection Agency, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio, April 1977.

1.2.2 Summary of Methods (TVA)

<u>Parameter</u>	<u>Applicable Document</u>	<u>Type of Analysis</u>	<u>Detection Limit</u>
Alkalinity	1.2.1.1, method 310.1	Titrimetric	10 mg/L
Suspended solids	1.2.1.1, pp. 268-269	Gravimetric	1 mg/L
NO ₂ + NO ₃ Nitrogen	1.2.1.1, pp. 207-214	Automated cadmium reduction	0.01 mg/L
NH ₃ Nitrogen	1.2.1.1, pp. 168-174	Automated phenate	0.01 mg/L
Total and soluble PO ₄	1.2.1.1, pp. 249-265	Automated ascorbic acid	0.01 mg/L
Calcium	1.2.1.1, pp. 103-104	Atomic absorption, direct	0.1 mg/L
Magnesium	1.2.1.1, pp. 116-117	Atomic absorption, direct	0.1 mg/L

<u>Parameter</u>	<u>Applicable Document</u>	<u>Type of Analysis</u>	<u>Detection Limit</u>
Copper	1.2.1.1, pp. 81-83, 108	Atomic absorption, direct	0.01 mg/L
Nickel	1.2.1.1, pp. 81-83, 141-142	Atomic absorption, direct	0.01 mg/L
Mercury	1.2.1.1, pp. 118-126	Cold vapor, manual	0.0002 mg/L
Zinc	1.2.1.1, pp. 81-83, 155	Atomic absorption, direct	0.01 mg/L
Cadmium	1.2.1.2, pp. 33-34	Heated graphite atomizer	0.0001 mg/L
Arsenic	1.2.1.1, pp. 95-96	Gaseous hydride	0.002 mg/L
Beryllium	1.2.1.1, pp. 81-83, 99-100	Atomic absorption, direct	0.01 mg/L
Other priority pollutants	1.2.1.3	Gas chromatography- mass spectrometry	Various detection limits

2.0 Sediment

2.1 DDT Analysis

2.1.1 Applicable Documents

2.1.1.1 "Manual of Analytical Methods for the Analysis of Pesticide Residues in Human and Environmental Samples," U.S. Environmental Protection Agency, Pesticides and Toxic Substances Effects Laboratory, National Environmental Research Center, Research Triangle Park, North Carolina, December 1974.

2.1.1.2 "Ecological Evaluation of Proposed Discharge or Fill Material into Navigable Waters," WES Miscellaneous Paper D-76-17, Dredged Material Research Program (DMRP) publication, Appendix D, Total Sediment Analysis Procedures.

2.1.1.3 "Interim Methods for the Sampling and Analysis of Priority Pollutants in Sediments and Fish Tissue," (1978), U.S. Environmental Protection Agency, EMSL, Cincinnati, OH 45263.

2.1.2 Summary of Method

- 2.1.2.1 SLI Method--The compounds of interest are extracted from air-dried sediment with 15% methylene chloride in hexane (v/v). The sample/solvent mixture is agitated for 30 minutes on a mechanical shaker followed by ultrasonification for 30 minutes. The extract is subsequently analyzed for DDT isomers and metabolites using agency-approved methods.
- 2.1.2.2 EPA Method--EPA extracted the sediment samples using an ultrasonic probe. The samples were sonicated twice with 1:1 acetone:hexane. The extracts were water washed to remove the acetone, then cleaned up on Florisil.
- 2.1.3 Sample Size--20 g for each measurement; 60 g are usually collected for moisture determination, quality control work, waste, and a reserve.
- 2.1.4 Minimum Detectable Amount--0.01 µg of each isomer or metabolite per g (dry weight basis) if a 20-g sample is used.

2.2 Wet Sieve Analysis

2.2.1 Applicable Documents

- 2.2.1.1 Guy, H. P., "Laboratory Theory and Methods for Sediment Analysis" Book 5, Chapter C1, in Techniques of Water-Resources Investigations of the United States Geological Survey, U.S. Government Printing Office, Washington, DC, 1969.

2.2.2 Summary of Method (TVA)

- 2.2.2.1 A 25-g aliquot of a well-mixed sediment sample is blended with 100 mL of deionized water for five minutes. This slurry is then poured into a stack of four 3-inch screens (2.0, 0.500, 0.125, and 0.063 mm). Each screen is washed with deionized water onto

the next size screen (e.g., the 2.0-mm screen is washed onto the 0.500 screen, etc.). The material retained on each sieve along with the sediment that passes through the 0.063 mm sieve is dried at 105°C. From these data, the percentage of solids finer than 2.0, 0.5, 0.125, and 0.063 mm is calculated.

2.2.3 Sample Size

25 g

2.2.4 Minimum Detectable Amount

The range of this procedure is for particles ranging from greater than 2.0 mm to less than 0.063 mm.

2.3 Particle Size

2.3.1 Applicable Documents

2.3.1.1 Welch, N. H., P. B. Allen, and D. J. Galindo, "Particle-Size Analysis by Pipette and SediGraph," prepublication manuscript.

2.3.1.2 Instruction Manual, SediGraph 5000D Particle Size Analyzer, Micromeritics Instrument Corporation, MIC P/N 500/42801/00, Norcross, Georgia, 1978.

2.3.2 Summary of Method (TVA)

2.3.2.1 A sample previously wet-sieved through a 63 μ m sieve is dispersed in a 0.05% sodium hexametaphosphate solution. The particle size distribution is determined using a SediGraph Model 5000D Particle Size Analyzer. This is determined by means of a finely collimated beam of X-rays whose transmittance indicates the concentration of particles remaining in suspension at various sedimentation depths as a function of time. The results are plotted on an X-Y recorder showing the particle size distribution in terms of "cumulative mass percent finer"

versus "equivalent spherical diameter." Reference 2 presents the theory and principles upon which the method is based.

2.3.3 Sample Size

25 g (if wet sieve analysis is performed, the particles passing through the 63 μm sieve are retained for particle size analysis).

2.3.4 Minimum Detectable Amount

The optimum range of this procedure is from 62 μm down to an equivalent spherical diameter of 0.25 μm . The range can be extended to 0.1 μm , but this requires an additional five hours of analysis time.

2.4 Elutriate Test

2.4.1 Applicable Documents

- 2.4.1.1 "Ecological Evaluation of Proposed Discharge of Dredged or Fill Material into Navigable Waters." pp. A1-A7, miscellaneous paper D-76-17, Office Chief of Engineers, U.S. Army, Washington, DC, May 1976.

2.4.2 Summary of Method (TVA)

- 2.4.2.1 The elutriate test is a simplified simulation of the dredging and disposal process wherein predetermined amounts of dredging site water and sediment are mixed together to approximate a dredged material slurry. The elutriate is the supernatant resulting from the vigorous 30-min shaking of one part bottom sediment from the dredging site with four parts water (vol/vol) collected from the dredging site followed by a 1-hour settling time and appropriate centrifugation and 0.45 μ filtration.

2.4.3 Sample Size

A 1000-g sediment sample is needed along with a 2-gallon representative water sample at the dredging site.

2.4.4 Minimum Detectable Amount

Not applicable

3.0 Fish and Vertebrates

3.1 Applicable Documents

3.1.1 Pesticide Analytical Manual, Volume 1, Methods Which Detect Multiple Residues, Section 211.13f, U.S. Department of Health, Education, and Welfare, Food and Drug Administration, September 1972.

3.1.2 "Interim Methods for the Sampling and Analysis of Priority Pollutants in Sediments and Fish Tissues," (1978), U.S. Environmental Protection Agency, EMSL, Cincinnati, OH 45263.

3.2 Summary of Method

3.2.1 SLI

3.2.1.1 The sample is homogenized, dried with Na_2SO_4 , and extracted three times with petroleum ether using a high-speed blender. The combined petroleum ether extract is concentrated, transferred to a tared container and dried for lipid determination. Residue is dissolved in hexane and subjected to florisil cleanup when necessary. The extract is subsequently analyzed for DDT isomers and metabolites using agency-approved methods (1.1.1).

3.2.2 EPA

3.2.2.1 EPA used a sonic probe technique which involved two sonications of solvent and fish, for most of this study. The first few samples analyzed by EPA were also extracted by the FDA method which utilizes a high-speed blender. EPA used acetonitrile partitioning and Florisil chromatography in place of sulfuric acid cleanup.

- 3.3 Sample Size--25 g for each measurement; at least 50 g are usually collected for the quality control work and for a reserve.
- 3.4 Minimum Detectable Amount--0.01 μg of each isomer or metabolite per g if a 25-g sample is used.

APPENDIX V

WORKTASK DESCRIPTIONS AND RESULTS FOR 7 TVA WORKTASKS

- TASK 1: DDT LEVELS IN IMPORTANT FISH SPECIES
THROUGHOUT WILSON, WHEELER, AND
GUNTERSVILLE RESERVOIRS**
- TASK 2: FISH POPULATION ESTIMATES AND DDT CON-
CENTRATIONS IN YOUNG-OF-YEAR FISHES
FROM INDIAN CREEK AND HUNTSVILLE SPRING
BRANCH EMBAYMENTS OF WHEELER RESERVOIR**
- TASK 3: ASSESSMENT OF DDT CONCENTRATIONS IN
SEDIMENTS CORRESPONDING TO AREA-WIDE
FISHERIES STUDIES**
- TASK 4: ASSESSMENT OF DDT CONCENTRATIONS AND
OTHER CONTAMINANTS IN SEDIMENTS IN
REDSTONE ARSENAL VICINITY**
- TASK 5: AQUATIC BIOTRANSPORT (EXCLUDING VERTEBRATES)**
- TASK 6: VOLUME 1. HYDROLOGIC AND SEDIMENT DATA**
- TASK 7: ASSESSMENT OF DDT LEVELS OF SELECTED
VERTEBRATES IN AND ADJACENT TO WHEELER,
WILSON, AND GUNTERSVILLE RESERVOIRS
(SPATIAL EXTENT OF CONTAMINATION)**

ERRATA SHEET FOR
TASKS 1-7 FOR DDT STUDY
TVA - SEPTEMBER 30, 1980

<u>Document Description</u>	<u>Page</u>	<u>Section</u>	<u>Change</u>
Tasks 1-6	ii	Preface	"Envineering" to "Engineering"
1	2	3.42	"the composite dry ice blended" to "for most samples the frozen composite samples were wet blended"
6 Vol. 1 (3rd paragraph)	35	4.0	Insert after "dissolved" (without the addition of salt)
6 Vol. 1 (3rd paragraph)	35		Insert after "However", turbidity
7	2	3.1.2	Change "short-tailed shrew" to "shrew"
7	3	3.4.2	Insert after "Derivations in sample weights" (less than 50 grams)
7	4	4.1	Change the first sentence "A 10 gram aliquot..." to read "When a 50 g sample was available (turtles and muskrats), a 25 g aliquot was removed."
7	4	4.1	After "except for shrews" insert "snakes and herrons" change "animal was utilized" to "muscle tissue was utilized"
7	4	4.2	Omit entire section
7	4	4.3	Change "additionally, approximately 10 percent..." to "Due to the small sample sizes less than 10 percent..."

TABLE OF CONTENTS

This Appendix contains seven individual reports on work tasks performed by TVA. The reports have been reproduced as received. Some reports have their own appendices and page number sequences begin anew with each report. The Table of Contents for each of the seven reports follows:

	<u>Page</u>
Task 1: DDT Levels in Important Fish Species Throughout Wilson, Wheeler, and Gunterville Reservoirs	
Worktask Description	1
Sampling Location Maps	Appendix A
Raw Data Tabulations	Appendix B
Task 2: Fish Population Estimates and DDT Concentrations in Young- of-Year Fishes from Indian Creek and Huntsville Spring Branch Embayments of Wheeler Reservoir	
Worktask Description	1
Sampling Location Maps	Appendix A
Fish Population Estimate Data	Appendix B
Physical Data on Young-of-the-Year Fish Selected for DDTR Analysis	Appendix C
DDTR Analysis Data for Young-of-the-Year Fish Samples	Appendix D
Task 3: Assessment of DDT Concentrations in Sediments Corresponding to Area-Wide Fisheries Studies	
Worktask Description	1
Sampling Location Maps	Appendix A
Raw Data Tabulations	Appendix B
Task 4: Assessment of DDT Concentrations and Other Contaminants in Sediments in Redstone Arsenal Vicinity	
Worktask Description	1
Sampling Location Maps	Appendix A
Transect Cross-sections and Procedures	Appendix B
Raw Data Tabulations	Appendix C

TABLE OF CONTENTS, Continued

	<u>Page</u>
Task 5: Aquatic Biotransport (Excluding Vertebrates)	
Worktask Description	1
Purpose	1
Scope	1
Sample Collection and Handling	2
Sample Analysis	10
Data Handling and Reporting	11
Data Summary	12
Rainfall Survey	12
Late Summer/Early Fall	14
Late Fall/Early Winter	20
Raw Data Tabulations	23
Maps of Sampling Sites	Appendix
 Task 6: Volume 1. Hydrologic and Sediment Data	
Preface	iii
List of Figures	v
List of Tables	vi
1.0 Purpose and Scope	1
1.1 Purpose	1
1.2 Scope	1
2.0 Instrumentation	3
3.0 Sample Collection	12
3.1 Sampling Schedule	12
3.2 Discharge Measurements	12
3.3 Water Quality Samples	31
4.0 Sample Handling and Laboratory Methodology	33
5.0 Data Tabulations	35
5.1 Rainfall Data	35
5.2 Discharge Measurements	45
5.3 Suspended Sediment and DDTR Data	45
5.4 Bed Sediment Data	45

TABLE OF CONTENTS, Continued

	<u>Page</u>
5.5 Special Samples	45
Appendix	75
Task 7: Assessment of DDT Levels of Selected Vertebrates in and Adjacent to Wheeler, Wilson, and Gunterville Reservoirs (Spatial Extent of Contamination)	
Worktask Description	1
1.0 Purpose	1
2.0 Scope	1
3.0 Sample Collection and Handling	1
4.0 Sample Analysis	4
Sample Location Maps	Appendix A
Raw Data Tabulations	Appendix B

ENGINEERING AND ENVIRONMENTAL STUDY
OF DDT CONTAMINATION OF HUNTSVILLE
SPRING BRANCH, INDIAN CREEK, AND
ADJACENT LANDS AND WATERS,
WHEELER RESERVOIR, ALABAMA

TASK 1

DDT LEVELS IN IMPORTANT
FISH SPECIES THROUGHOUT WILSON,
WHEELER, AND GUNTERSVILLE RESERVOIRS

Tennessee Valley Authority
Office of Natural Resources

August 1980

PREFACE

This document was prepared in support of the Engineering and Environmental Study of DDT contamination of Huntsville Spring Branch, Indian Creek, and Adjacent Lands and Waters, Wheeler Reservoir, Alabama, for the U.S. Corps of Engineers.

This document contains information produced in fulfillment of an interagency agreement between the U.S. Corps of Engineers and the Tennessee Valley Authority (TVA Contract No. TV-52305A).

CONTENTS

Worktask Description	Page 1
Sampling Location Maps	Appendix A
Raw Data Tabulations	Appendix B

TASK 1

WORKTASK DESCRIPTION

TASK 1

WORKPLAN FOR DESCRIBING DDT LEVELS IN IMPORTANT FISH SPECIES THROUGHOUT WILSON, WHEELER, AND GUNTERSVILLE RESERVOIRS

1.0 Purpose

To define the level of DDTR* in important commercial and game fish species (human health implications) and to define the magnitude of DDTR bioconcentration and transfer in the fish community of Wheeler Reservoir.

2.0 Scope

Fish samples were collected from Wilson, Wheeler, and Gunter'sville Reservoirs, including eight tributaries of Wheeler Reservoir.

3.0 Procedures

3.1 Sample Locations - See Appendix A.

3.2 Types of Samples

3.2.1 Fish species to be sampled - 6 specimens of each species.

Commercial fish - (all stations) TL (mm)

Channel catfish	
and/or	
Blue catfish	350-450
Smallmouth buffalo	500-600

Game fish - (all stations) TL (mm)

White bass	200-300
White crappie	250-350
Largemouth bass	250-350
Bluegill	100-200

Forage fish - (TRM 260, 275, 315, 325, 345, 400, Indian Creek, and Huntsville Spring Branch).

	TL (mm)
Gizzard shad	50-150, 200-300

*DDTR = DDT isomers and metabolites

3.3 Field Collection

3.3.1 Six specimens of the following species: channel catfish and/or blue catfish, smallmouth buffalo, white bass, white crappie, largemouth bass, bluegill and gizzard shad were collected from the designated stations (see Appendix A). Gill nets, hoop nets, electrofishing gear, and trotlines were used to make the collections. Some specimens were also collected from Indian Creek and Huntsville Spring Branch with rotenone (see Task 2). In addition, young-of-the-year specimens were collected in conjunction with fish population studies (Task 2) for DDTR analysis.

3.4 Sample Handling

3.4.1 Each specimen collected was wrapped in paper and placed on ice in the field and then transferred to a chest freezer in the laboratory. Total length (mm) and weight (gm) was recorded and individual fish labeled and placed in the laboratory freezer. Caution was exercised to prevent contact with any plastic materials.

3.4.2 A summary of the fish sample collections is given in table 1. The samples designated by an asterisk in table 1 were handled and prepared by taking a portion of tissue from the dorsal musculature for DDTR analysis. On these samples, a 10-gram aliquot was removed from each portion of tissue and the composite dry ice blended. An aliquot was then analyzed for DDTR. On all remaining samples, a whole filet from each fish was removed, wrapped, and shipped to the laboratory. Each of the individual samples from one species was weighed and wrapped separately in aluminum foil and properly labeled. A separate polyethylene ziplock bag was used for all six samples from a given species (6 samples, 1 bag). The remaining body from each fish that had portions of flesh

Table 1. Summary of Fish Sample Collections
and DDTR Analysis for Task 1

Stream	Location	Mile	Large-mouth Bass		Small-mouth Buffalo		Blue-Gill	White Crappie		White Bass	Gizzard Shad	
			DDT#	DDT#	DDT#	DDT#	DDT#	DDT#	DDT#	DDT#	50-150	200-300
TRM		260	*	X	*	*	X	X	X	X	X	129
TRM		265	*	X	*	*	X	X	X	X	-	-
TRM		270	✓	-	*	*	*	*	*	*	-	-
TRM		275	✓	✓	✓	✓	✓	✓	✓	✓	X	155
TRM		280	✓	✓	✓	✓	✓	✓	✓	✓	-	-
TRM		285	*	*	*	*	*	*	*	*	-	-
TRM		290	*	*	*	*	*	*	*	*	-	-
TRM		295	*	*	*	*	*	*	*	*	-	-
TRM		300	✓	✓	*	*	*	*	*	*	-	-
TRM		305	*	✓	*	*	*	*	*	*	-	-
TRM		310	✓	✓	*	*	*	*	*	*	-	-
TRM		315	†	✓	†	†	✓	✓	✓	✓	X	130
TRM		320	✓	✓	✓	✓	✓	✓	✓	✓	-	-
TRM		325	✓	✓	✓	✓	✓	✓	✓	✓	X	132
TRM		330	✓	✓	✓	✓	✓	✓	✓	✓	-	-
TRM		335	✓	✓	✓	✓	✓	✓	✓	✓	-	-
TRM		340	✓	✓	✓	✓	✓	✓	✓	✓	-	-
TRM		345	†	✓	†	†	✓	✓	✓	✓	X	168
TRM		350	✓	✓	✓	✓	✓	✓	✓	✓	-	-
TRM		375	✓	✓	✓	✓	✓	✓	✓	✓	-	-
TRM		400	✓	✓	✓	✓	✓	✓	✓	✓	X	67
Elk River		5	*	*	*	*	*	*	*	*	-	-
Elk River		10	*	*	*	*	*	*	*	*	-	-
Elk River		15	*	*	*	*	*	*	*	*	-	-
Spring Creek		1	✓	✓	✓	✓	✓	✓	✓	✓	-	-
Limestone Creek		3	✓	✓	✓	✓	✓	✓	✓	✓	-	-
Flint Creek		5	✓	✓	✓	✓	✓	✓	✓	✓	-	-
Cataco Creek		2	✓	✓	✓	✓	✓	✓	✓	✓	-	-
Indian Creek		2	†	✓	†	†	✓	✓	✓	✓	X	131
H.S.B. ~		4	X	X	X	X	X	X	X	X	X	X
Flint River		1	✓	✓	✓	✓	✓	✓	✓	✓	-	-
Paint Rock River		1	✓	✓	✓	✓	✓	✓	✓	✓	-	-

X = These samples could not be collected.
 * = These samples were partial filets blended with dry ice.
 † = These composite samples were taken from samples used for the whole body analysis.
 ✓ = All samples collected.
 - = Sample collection not planned.

removed was weighed, properly labeled, wrapped in aluminum foil, and retained in a freezer to provide capabilities for determining total DDT residue (head, flesh, viscera).

3.5 Sample Analysis

- 3.5.1 On those samples listed in table 1 which are not designated by an asterisk, the samples were prepared for analysis by first dicing each whole filet into small pieces and mixed well. A 10-gram aliquot was then removed from each fish and composited by blending. The composited samples were then analyzed for DDTR. If the total DDTR in the composite sample was greater than 2.0 $\mu\text{g/g}$, each of the six filets of that species were analyzed individually for all six forms of DDT residues. On composite samples which had been prepared by using only a partial filet, the individual samples were analyzed if the composite was greater than 1.0 $\mu\text{g/g}$.
- 3.5.2 Each of the six gizzard shad from a single station were blended separately. A composite sample was made by mixing aliquots from each of the six blended fish. The composite sample was analyzed for DDT residues. The remaining portion of each individually blended fish was retained for additional analyses as desired.
- 3.5.3 Whole body analyses was determined for six specimens of each of the following species: channel and/or blue catfish, largemouth bass, and bluegill, at the following sample locations: TRM 315, TRM 345, and ICM2.

The remainder of each fish (after filet analysis) was used for the whole body analysis. All samples were analyzed individually for DDTR by previously specified procedures. The individual

filet analyses and the DDT analyses on the remainder of the whole body were arithmetically combined (proportionately to weight) to determine the total whole body value.

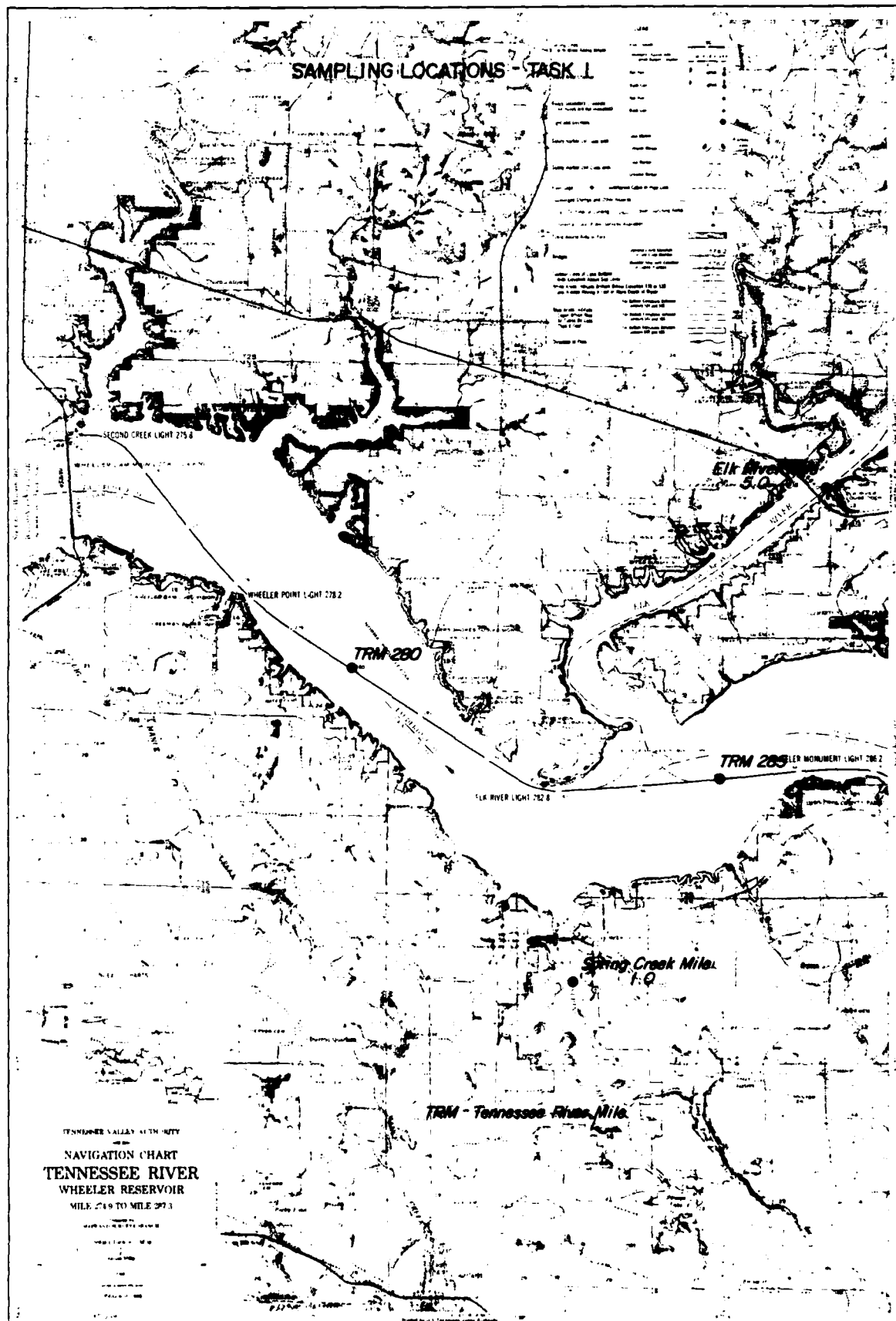
3.5.4 The DDT analysis was performed by an approved or acceptable procedure (see Quality Assurance document). Approximately 10 percent of all analyses were replicated. Additionally, approximately 10 percent of all samples to be analyzed were split and analyzed by a second laboratory.

3.6 Data Handling and Reporting

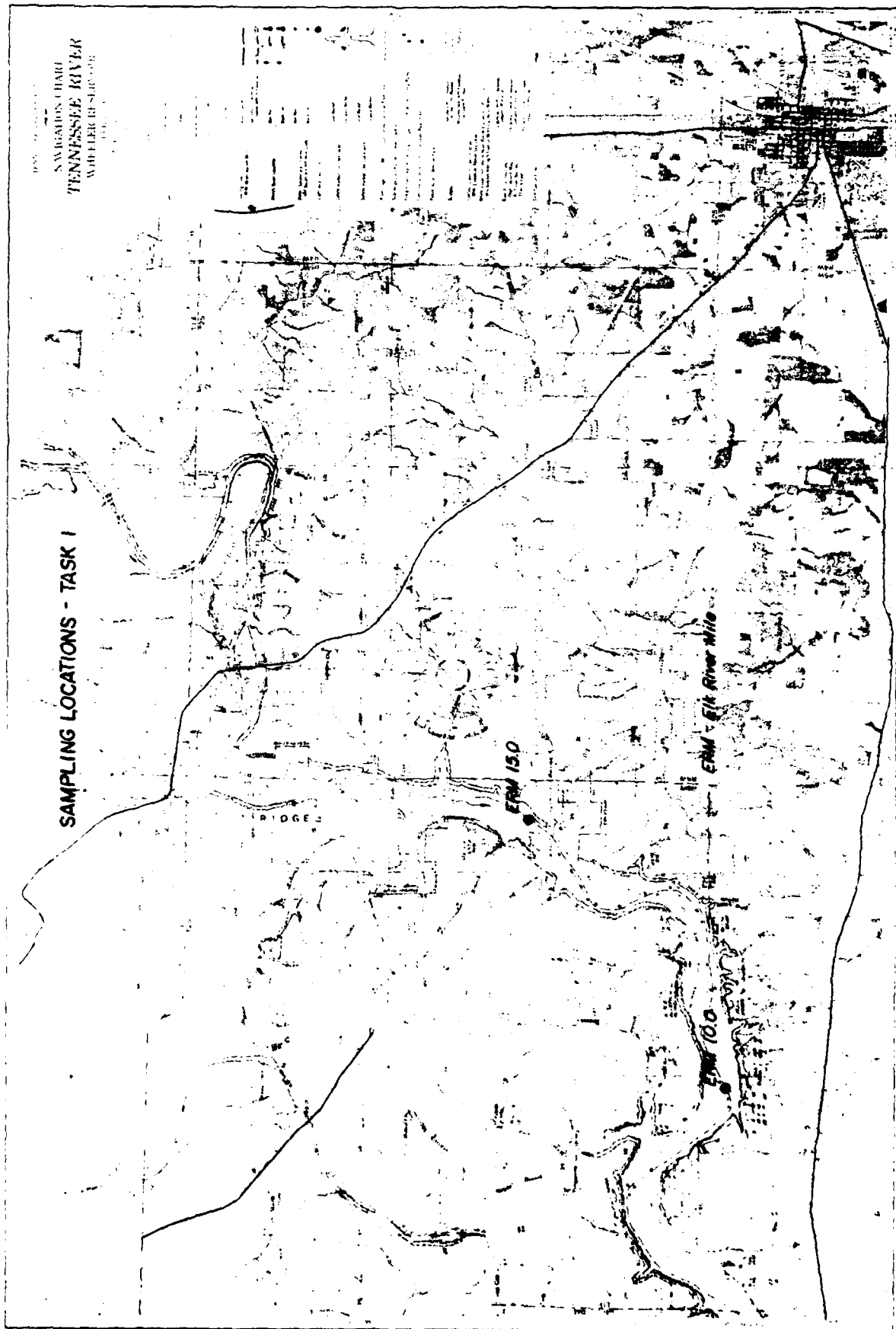
3.6.1 All data are summarized in tabular form and presented in Appendix B. This table includes: Sample identification number, location, date collected, species, length, weight, sex, and DDTR concentration.

APPENDIX A
SAMPLE LOCATION MAPS

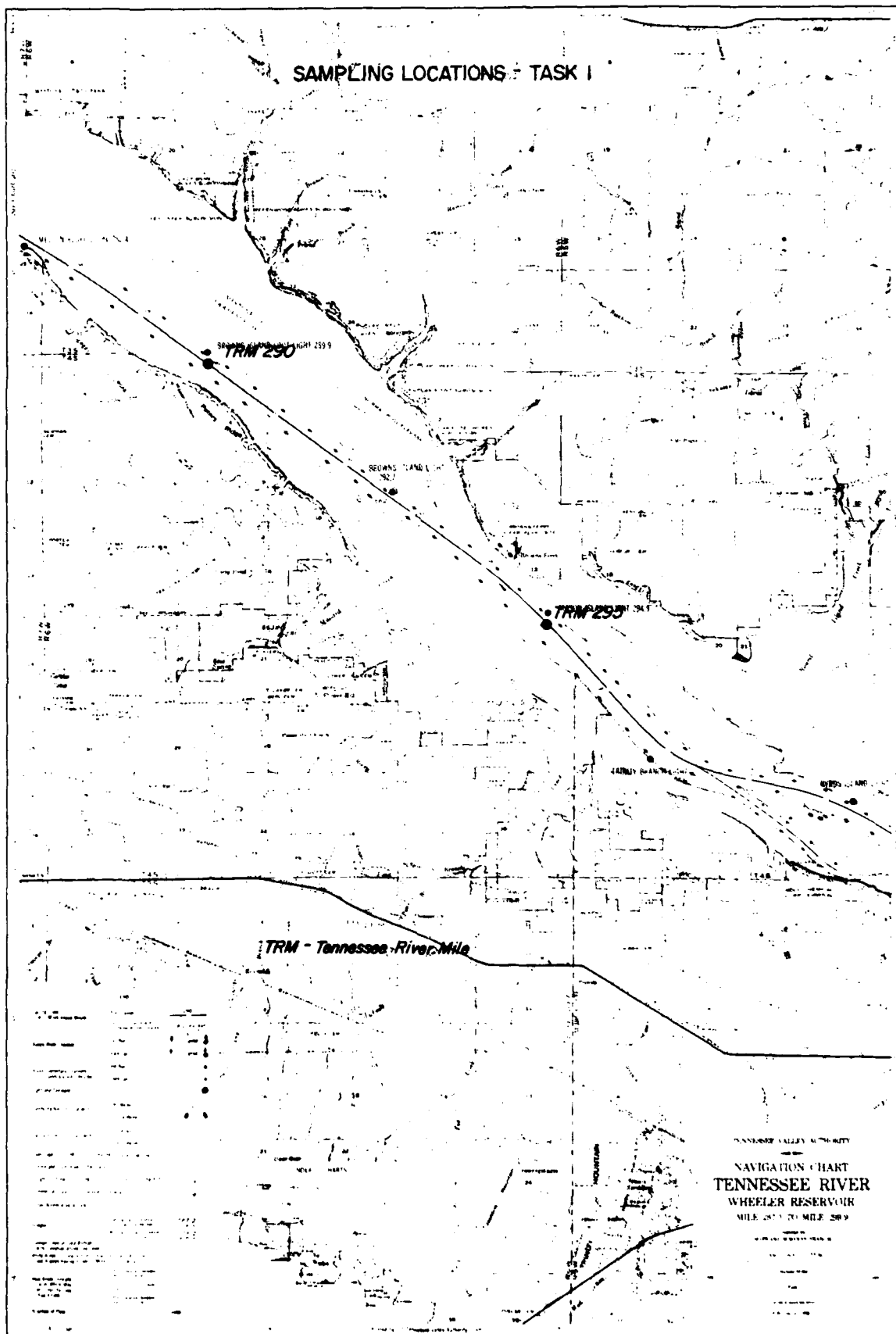
SAMPLING LOCATIONS - TASK 1



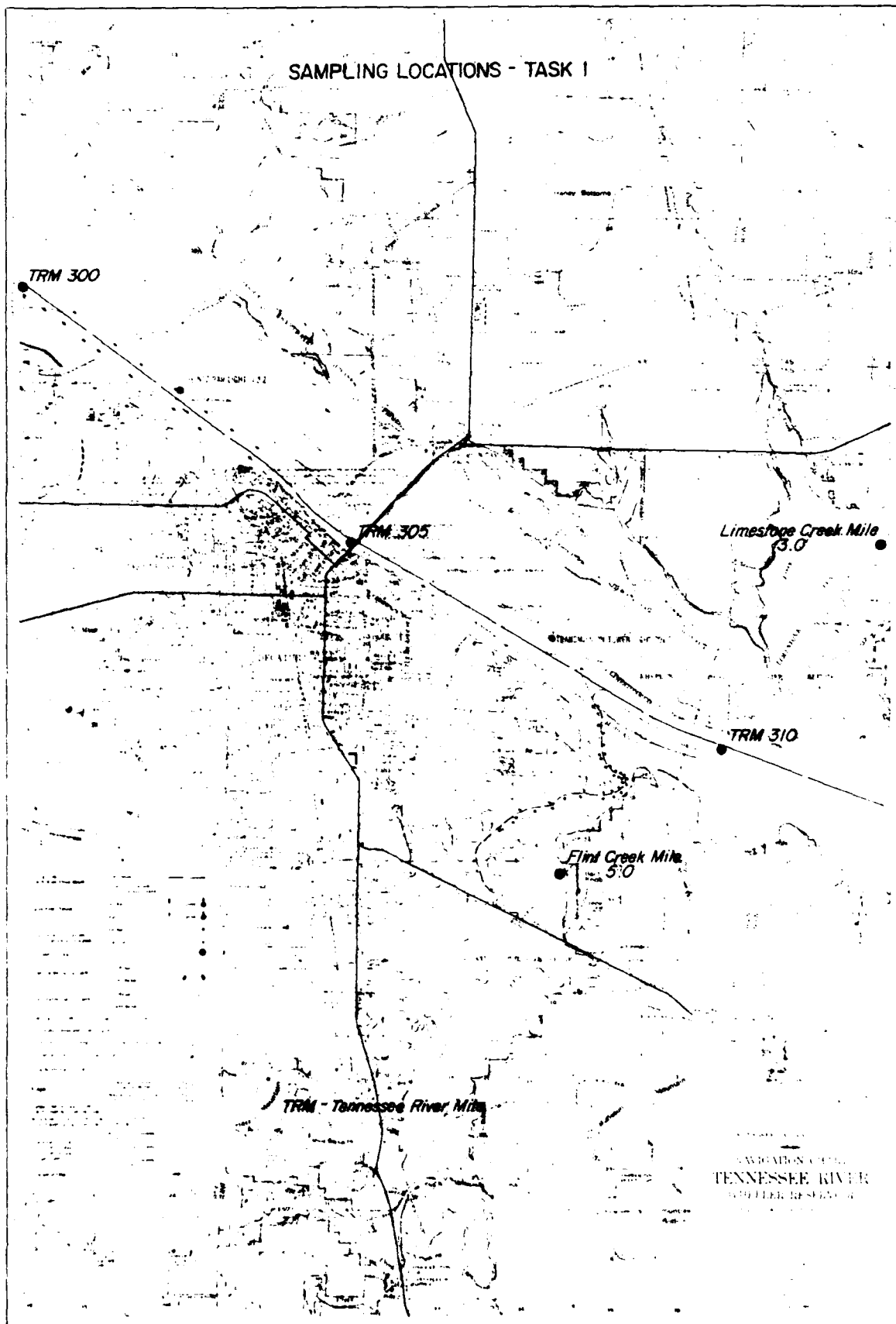
TENNESSEE VALLEY AUTHORITY
 NAVIGATION CHART
 TENNESSEE RIVER
 WHEELER RESERVOIR
 MILE 274.9 TO MILE 287.3



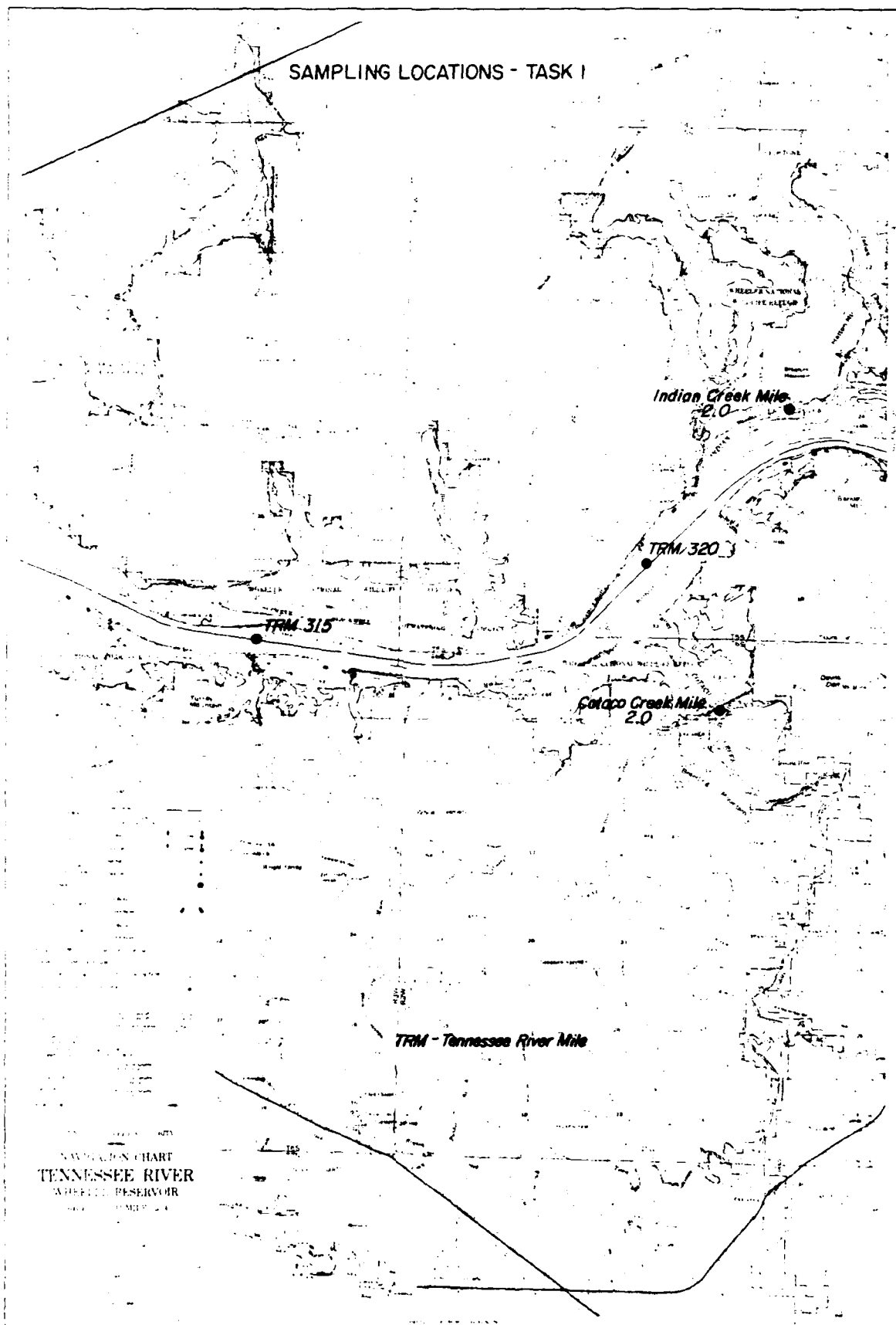
SAMPLING LOCATIONS - TASK I



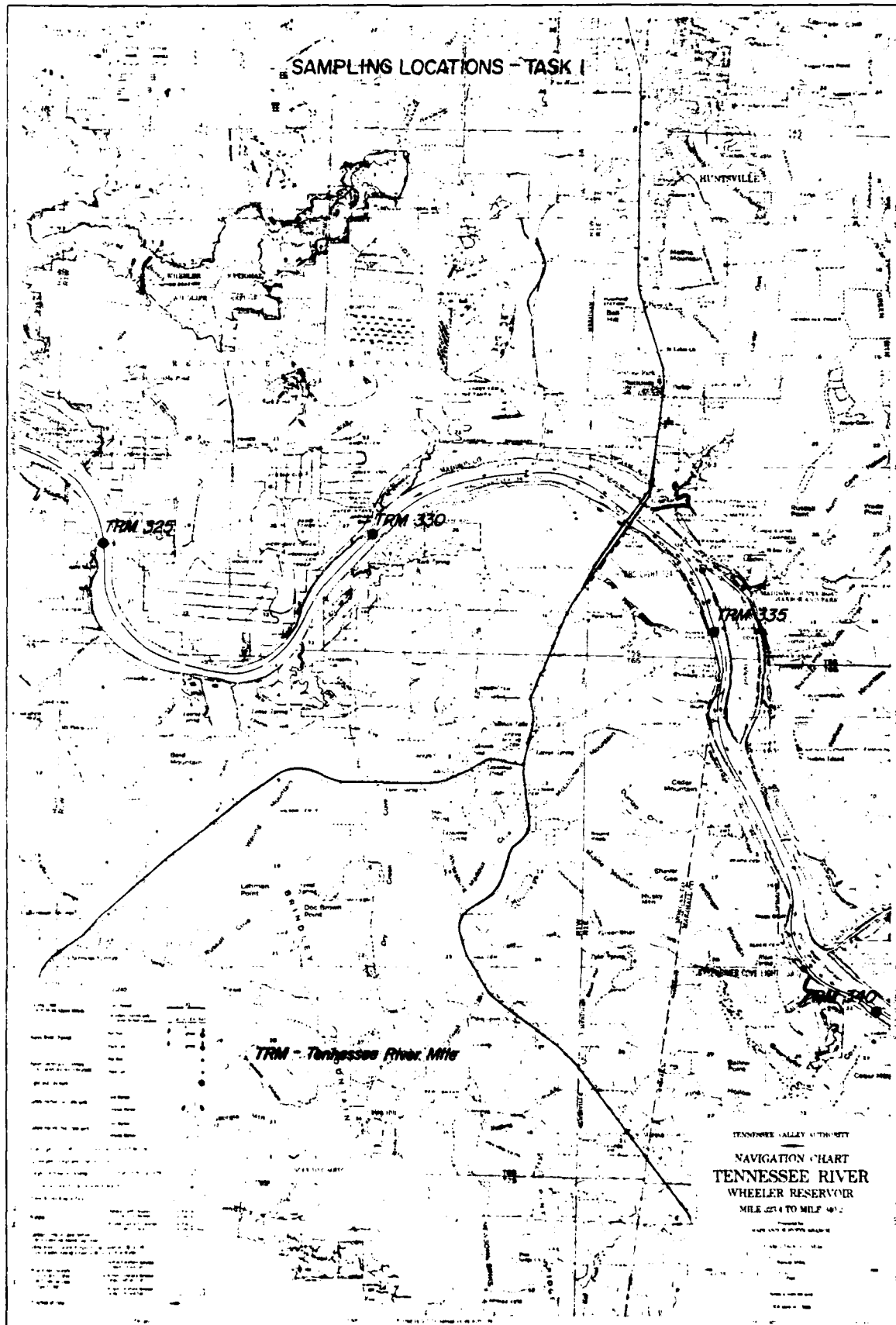
SAMPLING LOCATIONS - TASK I

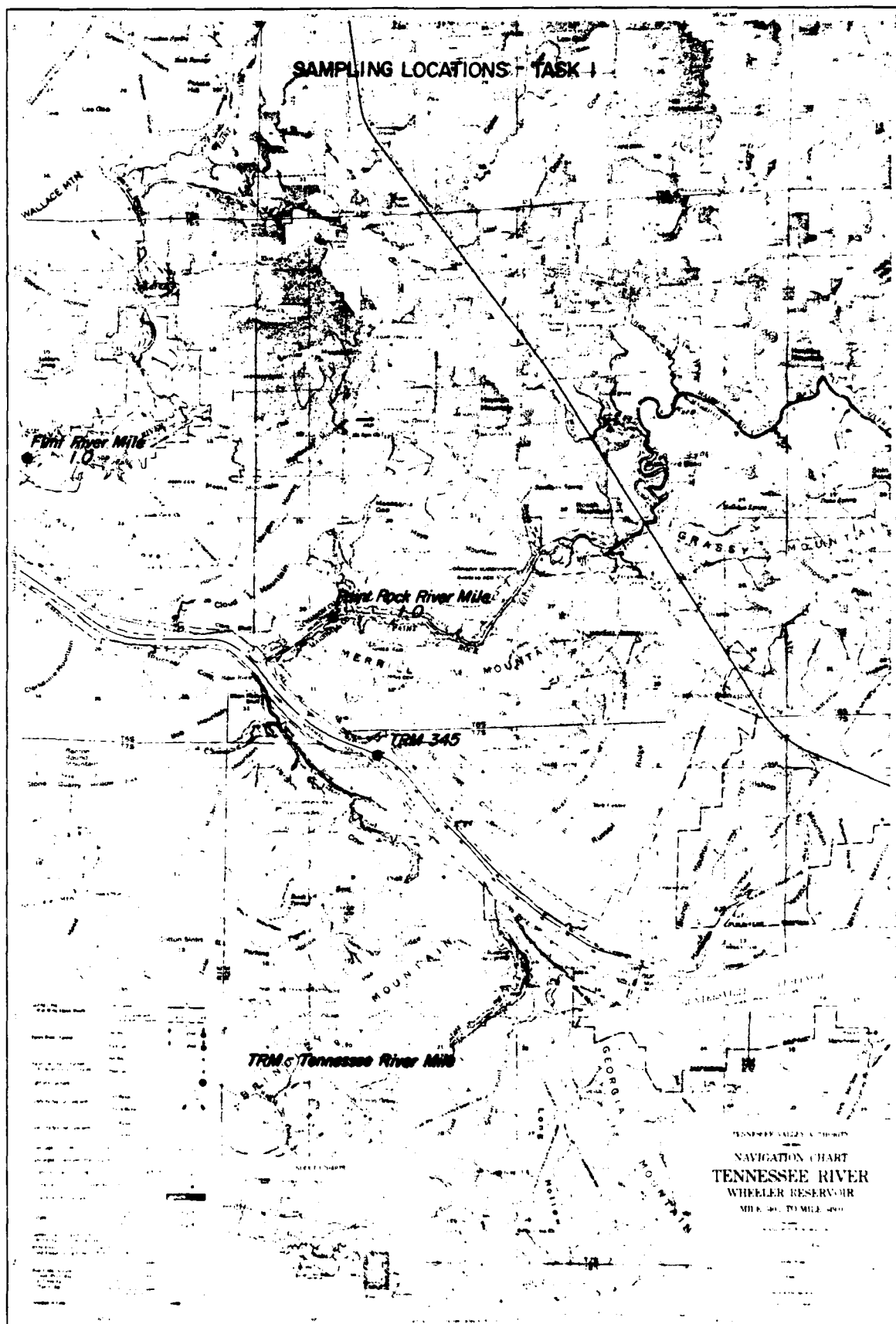


SAMPLING LOCATIONS - TASK I

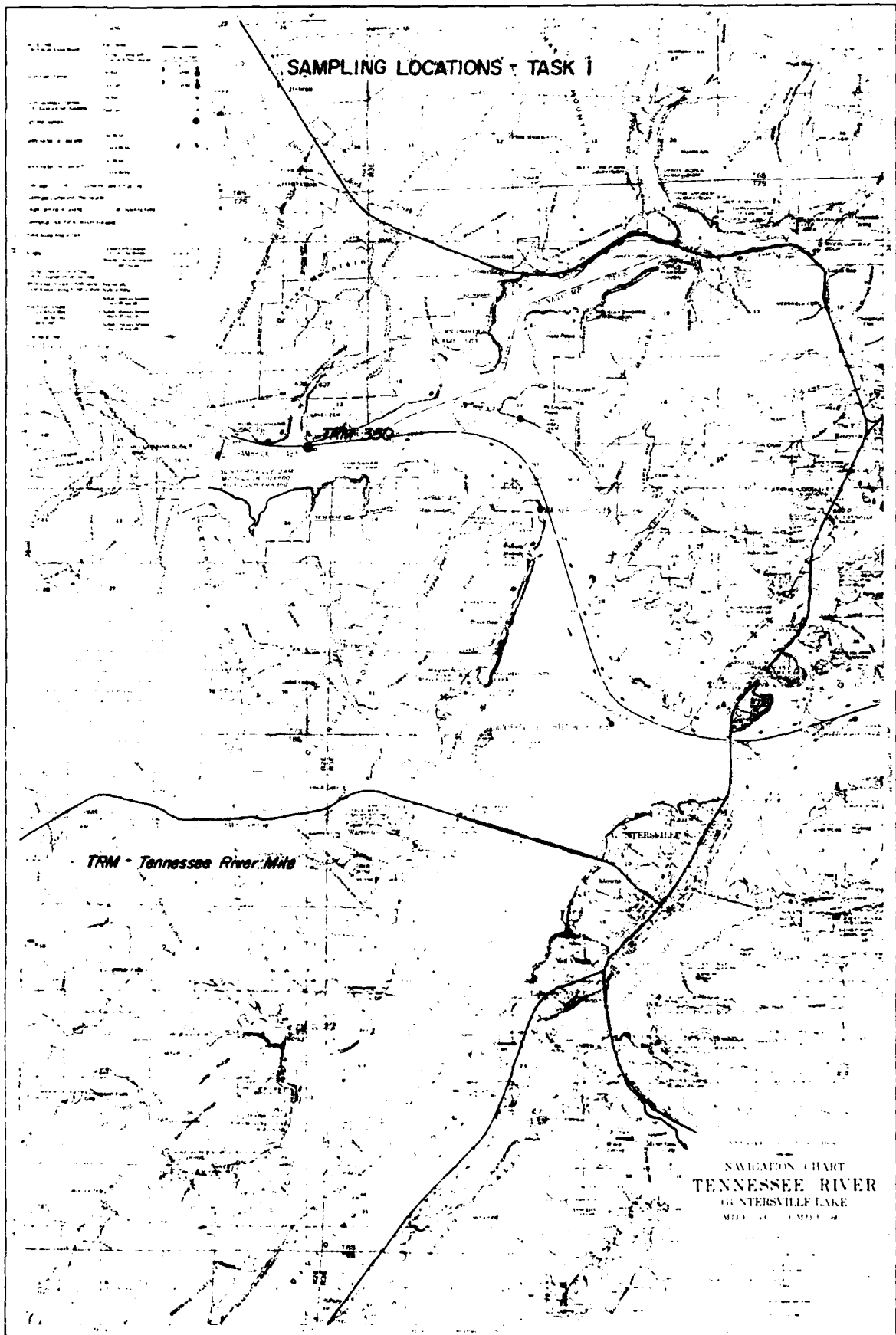


SAMPLING LOCATIONS - TASK I

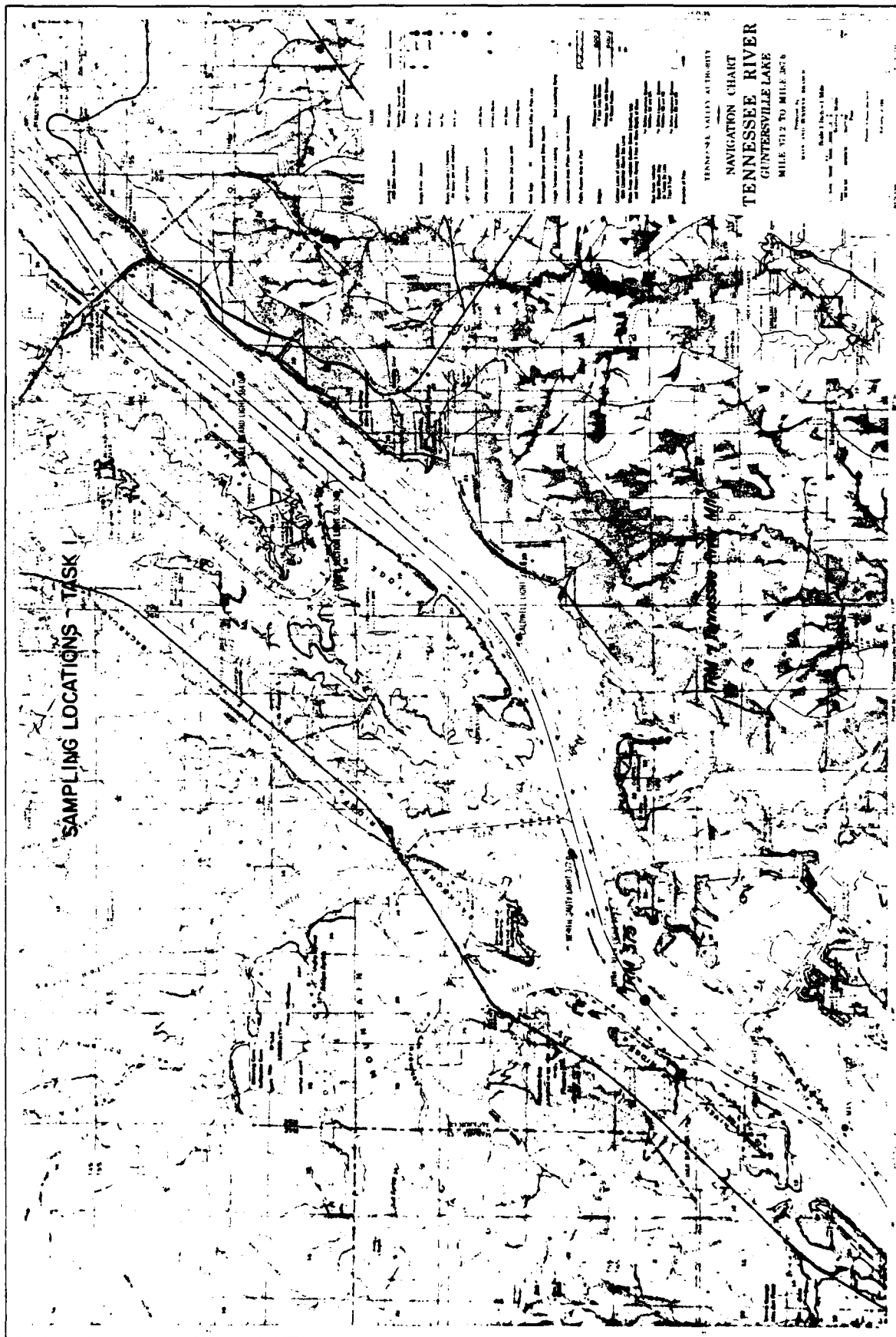


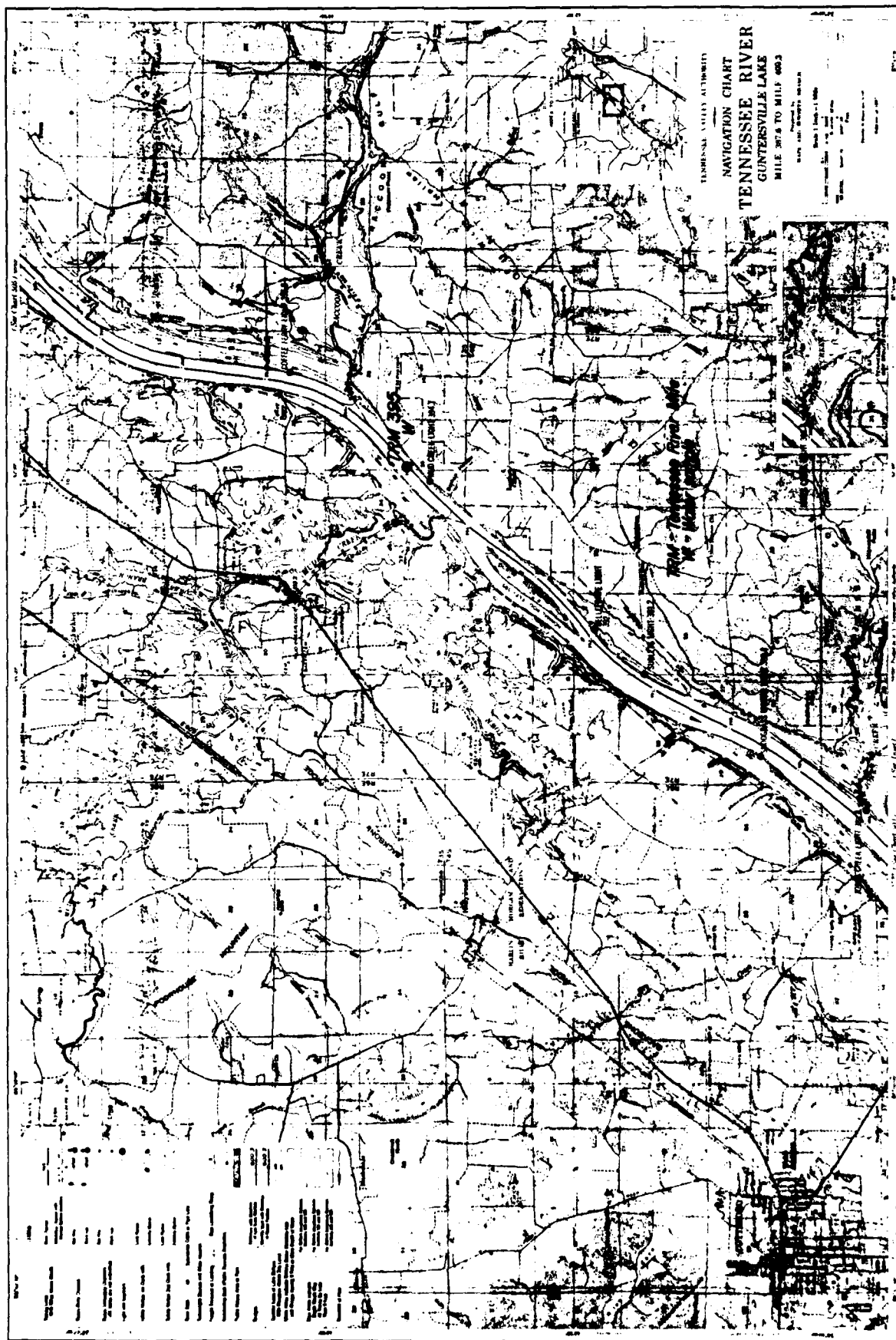


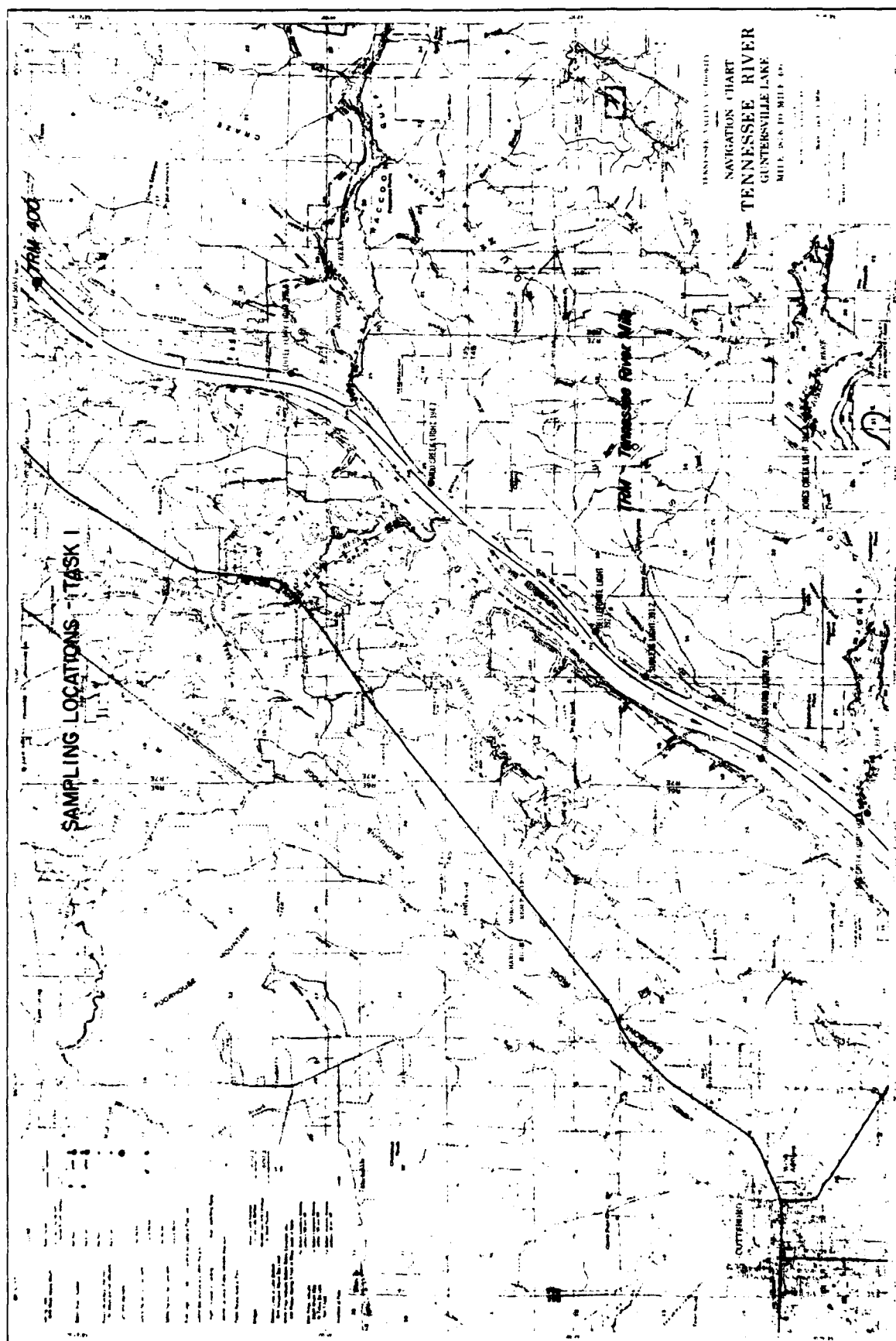
SAMPLING LOCATIONS - TASK I



NAVIGATION CHART
TENNESSEE RIVER
OF NTERVILLE LAKE
MILE 100 - 101







APPENDIX B
RAW DATA TABULATIONS

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS -- WHEELER RESERVOIR, ALABAMA
TASK 1 - DDT LEVELS IN IMPORTANT FISH SPECIES THROUGHOUT WILSON, WHEELER, AND GUNTERSVILLE RESERVOIRS

1

MILE	DATE	FID	LAB	SPECIES	LENGTH (MM)	T.WT (GM)	FILET WT. (GM)	---CONCENTRATIONS OF DDT MEASURED IN FISH UG/G---										REMARK
								LIPIDS		--DDT(UG/G)--		--DDD(UG/G)--		--DDE(UG/G)--		--TOTAL DDT--		
								(%)	(P,P)	O,P	O,P	O,P	O,P	MIN	MAX			
---CATACOC CREEK---																		
2.0	28AUG79	1-1	SLI	1-111A C. CATFISH	530	1490	180.0	6.08	1.02	1.38	8.03	33.80	4.77	22.00	71.0	71.0		
2.0	28AUG79	1-2	SLI	1-111B C. CATFISH	570	1440	177.0	3.19	1.67	2.84	11.50	67.60	10.50	45.10	139.2	139.2		
2.0	28AUG79	1-3	SLI	1-111C C. CATFISH	560	1750	153.0	6.34	1.10	1.53	12.10	53.70	4.39	25.80	98.6	98.6		
2.0	28AUG79	1-4	SLI	1-111D C. CATFISH	466	1860	78.0	2.69	0.25	0.20	2.93	14.50	1.77	8.13	27.8	27.8		
2.0	28AUG79	1-5	SLI	1-111E C. CATFISH	580	1390	120.0	0.11	0.32	0.55	0.18	6.14	1.39	12.50	21.1	21.1		
2.0	28AUG79	1-6	SLI	1-111F C. CATFISH	584	440	39.0	0.37	0.07	0.09	0.08	0.43	0.09	1.57	2.3	2.3		
2.0	28AUG79	COM	SLI	1-111 G. CATFISH				2.24	0.80	1.03	6.12	26.50	3.46	18.10	56.0	56.0	M.D.	
2.0	28AUG79	2-1		S.M. BUFFALO	305	460	47.0	.	.	.	.	.	.	.	.	.		
2.0	28AUG79	2-2		S.M. BUFFALO	365	800	58.0	.	.	.	.	.	.	.	.	.		
2.0	28AUG79	2-3		S.M. BUFFALO	305	410	36.0	.	.	.	.	.	.	.	.	.		
2.0	28AUG79	2-4		S.M. BUFFALO	380	970	54.0	.	.	.	.	.	.	.	.	.		
2.0	28AUG79	2-5		S.M. BUFFALO	355	770	98.0	.	.	.	.	.	.	.	.	.		
2.0	28AUG79	2-6		S.M. BUFFALO	315	510	53.0	.	.	.	.	.	.	.	.	.		
2.0	28AUG79	COM	SLI	1-109 S.M. BUFFALO				0.23	< 0.02	< 0.02	< 0.02	0.03	< 0.01	0.07	0.1	0.1	M.D.	
2.0	28AUG79	4-1		WHITE CRAPPIE	340	600	68.0	.	.	.	.	.	.	.	.	.		
2.0	28AUG79	4-2		WHITE CRAPPIE	305	440	58.0	.	.	.	.	.	.	.	.	.		
2.0	28AUG79	4-3		WHITE CRAPPIE	280	390	39.0	.	.	.	.	.	.	.	.	.		
2.0	28AUG79	4-4		WHITE CRAPPIE	285	330	46.0	.	.	.	.	.	.	.	.	.		
2.0	28AUG79	4-5		WHITE CRAPPIE	270	300	39.0	.	.	.	.	.	.	.	.	.		
2.0	28AUG79	4-6		WHITE CRAPPIE	275	300	41.0	.	.	.	.	.	.	.	.	.		
2.0	28AUG79	COM	SLI	1-110 WHITE CRAPPIE				0.05	< 0.02	< 0.02	< 0.02	0.04	< 0.01	0.03	0.1	0.1		
2.0	28AUG79	5-1		L.M. BASS	430	1320	125.0	.	.	.	.	.	.	.	.	.		
2.0	28AUG79	5-2		L.M. BASS	280	360	48.0	.	.	.	.	.	.	.	.	.		
2.0	28AUG79	5-3		L.M. BASS	320	450	34.0	.	.	.	.	.	.	.	.	.		
2.0	28AUG79	5-4		L.M. BASS	360	790	78.0	.	.	.	.	.	.	.	.	.		
2.0	28AUG79	5-5		L.M. BASS	225	140	28.1	.	.	.	.	.	.	.	.	.		
2.0	28AUG79	5-6		L.M. BASS	370	660	90.0	.	.	.	.	.	.	.	.	.		
2.0	28AUG79	COM	SLI	1-090 L.M. BASS				0.09	< 0.02	< 0.02	0.08	0.15	< 0.01	0.10	0.3	0.3	1	
2.0	28AUG79	6-1		BLUEGILL	165	90	18.7	.	.	.	.	.	.	.	.	.		
2.0	28AUG79	6-2		BLUEGILL	180	130	22.4	.	.	.	.	.	.	.	.	.		
2.0	28AUG79	6-3		BLUEGILL	180	110	20.3	.	.	.	.	.	.	.	.	.		
2.0	28AUG79	6-4		BLUEGILL	180	120	20.5	.	.	.	.	.	.	.	.	.		
2.0	28AUG79	6-5		BLUEGILL	145	80	16.5	.	.	.	.	.	.	.	.	.		
2.0	28AUG79	6-6		BLUEGILL	160	70	11.7	.	.	.	.	.	.	.	.	.		
2.0	28AUG79	COM	SLI	1-137 BLUEGILL				0.16	< 0.02	< 0.02	< 0.02	0.06	< 0.01	0.13	0.2	0.2		
---ELK RIVER---																		
5.0	7AUG79	1-1	SLI	1-017A C. CATFISH	500	1530	36.5	7.89	0.05	0.08	0.03	0.79	0.18	0.81	1.9	1.9		
5.0	7AUG79	1-2	SLI	1-017B C. CATFISH	460	880	35.0	2.41	0.02	0.02	0.01	0.26	0.06	0.29	0.7	0.7	M.D.	
5.0	7AUG79	1-3	SLI	1-017C C. CATFISH	360	460	31.5	3.48	< 0.02	< 0.02	0.11	0.05	0.05	0.23	0.4	0.4		
5.0	7AUG79	1-4	SLI	1-017D C. CATFISH	495	1540	38.0	4.33	0.14	0.13	0.37	0.81	0.19	0.66	2.3	2.3		
5.0	7AUG79	1-5	SLI	1-017E C. CATFISH	510	1650	40.5	1.35	0.02	0.04	0.02	0.23	0.06	0.20	0.6	0.6		
5.0	7AUG79	1-6	SLI	1-017F C. CATFISH	570	1900	40.0	4.03	0.03	0.09	0.08	1.02	0.21	0.81	2.2	2.2		
5.0	7AUG79	COM	SLI	1-017 G. CATFISH				2.08	0.05	0.06	0.07	0.46	0.11	0.49	1.2	1.2		

FRODO AND THE ENVIRONMENTAL STUDY OF THE CUMMINGS FALLS
 MOUNTAIN SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS -- WHEELER RESERVOIR, ALABAMA

100-443887-100

TASK 1 - OCT LEVELS IN IMPORTANT FISH SPECIES THROUGHOUT WILSON, WHEELER, AND GUNTERVILLE RESERVOIRS

---CONCENTRATIONS OF DDT MEASURED IN FISH, UG/G---																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
DATE	TIME	LAT	LONG	SPECIES	LENGTH (MM)	T.M.T (GM)	FILET WT. (GM)	LIPIDS				DDT (UG/G)				P,P'				TOTAL DDT																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
								(%)	C ₁₇	C ₁₈	C ₁₉	--DDT(UG/G)--	C ₁₇	C ₁₈	C ₁₉	--ODE(UG/G)--	P ₁₇	P ₁₈	P ₁₉	MIN	MAX	UG/G	UG/G	UG/G																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
5.0	7 AUG 79	2-1		S.M. BUFFALO	575	3210	33.0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.</

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ENGINEERING AND ENVIRONMENTAL STUDY OF FISH CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS — WHEELER RESERVOIR, ALABAMA
TASK 1 - DDT LEVELS IN IMPORTANT FISH SPECIES THROUGHOUT WILSON, WHEELER, AND GUNTERVILLE RESERVOIRS

MILE	DATE	FID LAB	SPECIES	LENGTH (MM)	T.WT (GM)	FILET WT. (GM)	--CONCENTRATIONS OF DDT MEASURED IN FISH, UG/G--										--TOTAL DDT--		REMARK
							LIPIDS (%)		--DDT (UG/G)--		--DDD (UG/G)--		--ODE (UG/G)--		MIN	MAX			
							O,P	P,P	O,P	P,P	O,P	P,P	O,P	P,P					
15.0	9AUG79	5-4	L.M. BASS	265	270	30.0	.	.	.	.	.	.	.	.	.	.	.	.	
15.0	9AUG79	5-5	L.M. BASS	355	740	37.0	.	.	.	.	.	.	.	.	.	.	.	.	
15.0	9AUG79	5-6	L.M. BASS	300	390	36.0	.	.	.	.	.	.	.	.	.	.	.	.	
15.0	9AUG79	COM 5-1	L.M. BASS	.	.	.	0.10	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	0.01	0.0	0.0	0.1	.	.	
15.0	9AUG79	6-1	BLUEGILL	150	110	26.0	.	.	.	.	.	.	.	.	.	.	.	.	
15.0	9AUG79	6-2	BLUEGILL	170	120	24.5	.	.	.	.	.	.	.	.	.	.	.	.	
15.0	9AUG79	6-3	BLUEGILL	175	140	31.0	.	.	.	.	.	.	.	.	.	.	.	.	
15.0	9AUG79	6-4	BLUEGILL	175	130	22.2	.	.	.	.	.	.	.	.	.	.	.	.	
15.0	9AUG79	6-5	BLUEGILL	180	120	20.0	.	.	.	.	.	.	.	.	.	.	.	.	
15.0	9AUG79	6-6	BLUEGILL	165	100	24.0	.	.	.	.	.	.	.	.	.	.	.	.	
15.0	9AUG79	COM SLI 1-016	BLUEGILL	.	.	.	0.10	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	0.01	0.0	0.0	0.1	.	.	
-----FLINT CREEK-----																			
5.0	16AUG79	5-1	L.M. BASS	320	440	33.0	.	.	.	.	.	.	.	.	.	.	.	.	
5.0	16AUG79	5-2	L.M. BASS	285	340	51.0	.	.	.	.	.	.	.	.	.	.	.	.	
5.0	16AUG79	5-3	L.M. BASS	315	390	54.0	.	.	.	.	.	.	.	.	.	.	.	.	
5.0	16AUG79	5-4	L.M. BASS	335	570	70.0	.	.	.	.	.	.	.	.	.	.	.	.	
5.0	16AUG79	5-5	L.M. BASS	295	310	47.0	.	.	.	.	.	.	.	.	.	.	.	.	
5.0	16AUG79	5-6	L.M. BASS	315	380	49.0	.	.	.	.	.	.	.	.	.	.	.	.	
5.0	16AUG79	COM SLI 1-004	L.M. BASS	.	.	.	0.06	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	0.03	0.1	0.1	0.2	.	.	
5.0	28AUG79	1-1	SLI 1-080A	410	610	53.0	1.04	< 0.02	0.11	0.17	1.60	0.31	2.10	4.3	4.3	4.3	.	.	
5.0	28AUG79	1-2	SLI 1-080B	365	460	67.0	1.17	0.05	0.12	0.40	2.84	0.47	2.52	6.4	6.4	6.4	.	.	
5.0	28AUG79	1-3	SLI 1-060C	390	470	49.0	2.28	0.03	0.16	0.53	3.27	0.59	3.50	8.1	8.1	8.1	.	.	
5.0	28AUG79	1-4	SLI 1-080D	490	1050	114.0	0.98	0.03	0.04	0.09	0.82	0.39	0.63	2.0	2.0	2.0	.	.	
5.0	28AUG79	1-5	SLI 1-080E	420	640	73.0	1.02	0.12	0.49	0.86	6.94	1.13	9.52	19.1	19.1	19.1	.	.	
5.0	28AUG79	1-6	SLI 1-080F	380	500	50.0	1.10	< 0.02	< 0.02	0.04	0.22	0.04	0.23	0.5	0.5	0.6	.	.	
5.0	28AUG79	COM SLI 1-080	C. CATFISH	.	.	.	0.75	< 0.02	0.07	0.15	1.54	0.30	1.68	3.7	3.7	3.8	.	.	
5.0	28AUG79	2-1	S.M. BUFFALO	430	1260	111.0	.	.	.	.	.	.	.	.	.	.	.	.	
5.0	28AUG79	2-2	S.M. BUFFALO	360	680	87.0	.	.	.	.	.	.	.	.	.	.	.	.	
5.0	28AUG79	2-3	S.M. BUFFALO	340	650	67.0	.	.	.	.	.	.	.	.	.	.	.	.	
5.0	28AUG79	2-4	S.M. BUFFALO	430	1240	140.0	.	.	.	.	.	.	.	.	.	.	.	.	
5.0	28AUG79	2-5	S.M. BUFFALO	440	1200	163.0	.	.	.	.	.	.	.	.	.	.	.	.	
5.0	28AUG79	2-6	S.M. BUFFALO	450	1380	81.0	.	.	.	.	.	.	.	.	.	.	.	.	
5.0	28AUG79	COM SLI 1-081	S.M. BUFFALO	.	.	.	0.71	< 0.02	< 0.03	< 0.01	0.04	0.01	0.15	0.2	0.2	0.3	.	.	
5.0	28AUG79	4-1	WHITE CRAPPIE	220	140	37.5	.	.	.	.	.	.	.	.	.	.	.	.	
5.0	28AUG79	4-2	WHITE CRAPPIE	225	150	35.0	.	.	.	.	.	.	.	.	.	.	.	.	
5.0	28AUG79	4-3	WHITE CRAPPIE	230	190	38.0	.	.	.	.	.	.	.	.	.	.	.	.	
5.0	28AUG79	4-4	WHITE CRAPPIE	230	180	31.5	.	.	.	.	.	.	.	.	.	.	.	.	
5.0	28AUG79	4-5	WHITE CRAPPIE	240	190	36.0	.	.	.	.	.	.	.	.	.	.	.	.	
5.0	28AUG79	4-6	WHITE CRAPPIE	215	150	30.0	.	.	.	.	.	.	.	.	.	.	.	.	
5.0	28AUG79	COM SLI 1-151	WHITE CRAPPIE	.	.	.	0.06	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	0.02	0.0	0.0	0.1	.	.	
5.0	28AUG79	6-1	BLUEGILL	190	130	27.0	.	.	.	.	.	.	.	.	.	.	.	.	
5.0	28AUG79	6-2	BLUEGILL	165	110	20.5	.	.	.	.	.	.	.	.	.	.	.	.	
5.0	28AUG79	6-3	BLUEGILL	175	100	12.0	.	.	.	.	.	.	.	.	.	.	.	.	
5.0	28AUG79	6-4	BLUEGILL	180	130	27.5	.	.	.	.	.	.	.	.	.	.	.	.	
5.0	28AUG79	6-5	BLUEGILL	170	90	15.5	.	.	.	.	.	.	.	.	.	.	.	.	
5.0	28AUG79	6-6	BLUEGILL	165	90	17.0	.	.	.	.	.	.	.	.	.	.	.	.	
5.0	28AUG79	COM SLI 1-146	BLUEGILL	.	.	.	0.11	< 0.02	< 0.02	< 0.02	< 0.04	< 0.01	0.12	0.2	0.2	0.2	0.2	.	

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS — WHEELER RESERVOIR, ALABAMA

TASK 1 - DDT LEVELS IN IMPORTANT FISH SPECIES THROUGHOUT WILSON, WHEELER, AND GUNTERSVILLE RESERVOIRS

MILE	DATE	FID LAB	LAB ID	SPECIES	LENGTH (MM)	T.WT (GM)	FILET WT. (GM)	CONCENTRATIONS OF DDT MEASURED IN FISH, UG/G										TOTAL DDT		REMARK
								LIPOIDS	DDT	DDT	DDT	DDT	DDT	DDT	DDT	DDT	DDT	MIN	MAX	
								(%)	P,P	P,P	P,P	P,P	P,P	P,P	P,P	P,P	P,P	UG/G	UG/G	
-----FLINT RIVER -----																				
1.0	25SEP79	1-1	SLI	C. CATFISH	360	470	70.0	1.52	0.07	0.02	0.02	0.08	0.04	0.11	0.3	0.3	0.3	0.3	0.3	
1.0	25SEP79	1-2	SLI	C. CATFISH	484	630	75.0	10.10	0.09	0.05	0.02	0.07	0.07	0.14	0.4	0.4	0.4	0.4	0.4	
1.0	25SEP79	1-3	SLI	C. CATFISH	330	265	40.0	2.93	0.19	0.14	0.02	0.12	0.19	0.53	1.2	1.2	1.2	1.2	1.2	
1.0	25SEP79	1-4	SLI	C. CATFISH	360	460	55.0	2.06	0.11	0.04	0.02	0.02	0.06	0.06	0.3	0.3	0.3	0.3	0.3	
1.0	25SEP79	1-5	SLI	C. CATFISH	366	410	60.0	1.75	0.26	0.07	0.43	1.03	0.22	0.59	2.6	2.6	2.6	2.6	2.6	
1.0	25SEP79	1-6	SLI	C. CATFISH	400	655	110.0	8.45	0.03	0.02	0.02	0.02	0.01	0.03	0.1	0.1	0.1	0.1	0.1	
1.0	25SEP79	COM	SLI	C. CATFISH	595	2870	300.0	1.94	0.03	0.04	0.03	0.15	0.07	0.17	0.5	0.5	0.5	0.5	0.5	
1.0	25SEP79	2-1	SLI	S.M. BUFFALO	630	3700	380.0													
1.0	25SEP79	2-2	SLI	S.M. BUFFALO																N.S.
1.0	25SEP79	2-3	SLI	S.M. BUFFALO																N.S.
1.0	25SEP79	2-4	SLI	S.M. BUFFALO																N.S.
1.0	25SEP79	2-5	SLI	S.M. BUFFALO																N.S.
1.0	25SEP79	2-6	SLI	S.M. BUFFALO																N.S.
1.0	25SEP79	COM	SLI	S.M. BUFFALO																N.S.
1.0	25SEP79	4-1	SLI	WHITE CRAPPIE	301	405	58.0													
1.0	25SEP79	4-2	SLI	WHITE CRAPPIE	320	455	71.0													
1.0	25SEP79	4-3	SLI	WHITE CRAPPIE	221	140	35.0													
1.0	25SEP79	4-4	SLI	WHITE CRAPPIE	215	110	38.0													
1.0	25SEP79	4-5	SLI	WHITE CRAPPIE	252	180	36.7													
1.0	25SEP79	4-6	SLI	WHITE CRAPPIE	200	115	34.0													
1.0	25SEP79	COM	SLI	WHITE CRAPPIE	201	110	30.5	0.05	0.01	0.01	0.01	0.04	0.01	0.05	0.1	0.1	0.1	0.1	0.1	
1.0	25SEP79	5-1	SLI	L.M. BASS	201	110	30.5													
1.0	25SEP79	5-2	SLI	L.M. BASS	177	100	16.4													
1.0	25SEP79	5-3	SLI	L.M. BASS	200	100	32.0													
1.0	25SEP79	5-4	SLI	L.M. BASS	198	100	32.8													
1.0	25SEP79	5-5	SLI	L.M. BASS	180	80	19.0													
1.0	25SEP79	5-6	SLI	L.M. BASS																N.S.
1.0	25SEP79	COM	SLI	L.M. BASS																
1.0	25SEP79	6-1	SLI	BLUEGILL	163	90	26.4	0.05	0.02	0.02	0.02	0.02	0.01	0.02	0.0	0.0	0.0	0.0	0.0	
1.0	25SEP79	6-2	SLI	BLUEGILL	156	80	21.6													
1.0	25SEP79	6-3	SLI	BLUEGILL	125	30	11.0													
1.0	25SEP79	6-4	SLI	BLUEGILL	141	55	20.0													
1.0	25SEP79	6-5	SLI	BLUEGILL	140	80	31.0													
1.0	25SEP79	6-6	SLI	BLUEGILL	140	50	18.8													
1.0	25SEP79	COM	SLI	BLUEGILL				0.38	0.02	0.02	0.02	0.02	0.02	0.01	0.05	0.0	0.0	0.0	0.0	
-----INDIAN CREEK -----																				
2.0	2AUG79	7-1	SLI	GIZZARD SHAD	260	180		2.15	1.94	4.58	36.00	82.40	13.60	40.30	178.8	178.8	178.8	178.8	178.8	
2.0	2AUG79	7-2	SLI	GIZZARD SHAD	255	130		1.52	0.69	0.71	10.10	24.70	4.31	14.10	54.6	54.6	54.6	54.6	54.6	
2.0	2AUG79	7-3	SLI	GIZZARD SHAD	240	120		1.02	0.14	0.10	7.63	18.20	2.80	10.80	39.6	39.6	39.6	39.6	39.6	
2.0	2AUG79	7-4	SLI	GIZZARD SHAD	230	120		1.52	0.72	0.68	11.30	23.90	4.62	13.70	54.9	54.9	54.9	54.9	54.9	
2.0	2AUG79	7-5	SLI	GIZZARD SHAD	235	120		0.69	0.57	0.97	8.53	19.60	3.05	8.94	41.7	41.7	41.7	41.7	41.7	
2.0	2AUG79	7-6	SLI	GIZZARD SHAD	235	110		1.26	0.42	0.32	7.68	20.20	2.81	10.40	41.8	41.8	41.8	41.8	41.8	
2.0	2AUG79	COM	SLI	GIZZARD SHAD				2.13	1.24	1.90	19.70	46.90	7.39	23.10	100.2	100.2	100.2	100.2	100.2	

TASK 1 - DOT LEVELS IN IMPORTANT FISH SPECIES THROUGHOUT WILSON, WHEELER, AND GUNTERSVILLE RESERVOIRS

---CONCENTRATIONS OF DOT MEASURED IN FISH, UG/G---										--TOTAL DDTR--								
MILE	DATE	FID LAB	LARIU	SPECIES	LENGTH (MM)	T.WT (GM)	FILET WT. (GM)	LIPIDS (UG/G)---				--DDO (UG/G)---		--ODE (UG/G)---		MIN (UG/G)	MAX (UG/G)	REMARK
								(%)	O,P	P,P	O,P	O,P	P,P	O,P	P,P			
2.0	28AUG79	1-1	SLI	C. CATFISH	608	1270	364.0	5.72	12.30	13.00	69.00	226	31.60	104	455.9	455.9	455.9	
2.0	28AUG79	1-2	SLI	C. CATFISH	585	1030	119.0	10.50	8.69	11.20	110	288	52.50	157	627.4	627.4	627.4	
2.0	28AUG79	1-3	SLI	C. CATFISH	350	370	45.7	2.60	0.18	0.18	2.63	6.95	1.32	4.24	15.5	15.5	15.5	
2.0	28AUG79	1-4	SLI	C. CATFISH	425	680	90.0	4.77	2.05	0.26	29.50	77.00	13.20	45.50	167.5	167.5	167.5	M.D.
2.0	28AUG79	1-5	SLI	C. CATFISH	551	975	109.0	7.21	9.22	8.67	104	289	50.20	156	617.1	617.1	617.1	
2.0	28AUG79	1-6	SLI	C. CATFISH	320	300	40.0	1.83	1.70	1.70	3.80	10.40	1.96	5.87	25.4	25.4	25.4	M.D.
2.0	28AUG79	COM	SLI	C. CATFISH	355	710	59.0	1.85	2.59	2.71	29.10	90.50	13.50	47.10	185.5	185.5	185.5	
2.0	28AUG79	2-1	SLI	S.M. BUFFALO	350	730	63.0	0.76	0.08	0.05	1.61	2.94	0.63	1.48	6.8	6.8	6.8	
2.0	28AUG79	2-2	SLI	S.M. BUFFALO	350	730	63.0	0.98	0.14	0.05	3.26	5.59	1.23	2.36	12.6	12.6	12.6	
2.0	28AUG79	2-3	SLI	S.M. BUFFALO	305	460	39.0	0.26	< 0.02	< 0.02	0.49	1.02	0.18	0.45	2.1	2.1	2.1	
2.0	28AUG79	2-4	SLI	S.M. BUFFALO	330	740	96.0	4.38	0.35	0.25	10.30	20.10	4.19	8.81	44.0	44.0	44.0	
2.0	28AUG79	2-5	SLI	S.M. BUFFALO	360	850	98.0	2.65	0.32	0.16	6.32	12.80	2.99	6.56	29.1	29.1	29.1	
2.0	28AUG79	2-6	SLI	S.M. BUFFALO	380	1000	94.0	1.47	0.12	< 0.02	3.80	8.13	1.81	4.42	18.3	18.3	18.3	
2.0	28AUG79	COM	SLI	S.M. BUFFALO	260	260	34.5	1.63	0.20	0.13	3.00	8.44	1.20	3.28	16.2	16.2	16.2	
2.0	28AUG79	4-1	SLI	WHITE CRAPPIE	260	270	35.0	.	.	.	.	.	.	.	.	.	.	
2.0	28AUG79	4-2	SLI	WHITE CRAPPIE	250	230	31.0	.	.	.	.	.	.	.	.	.	.	
2.0	28AUG79	4-3	SLI	WHITE CRAPPIE	305	540	76.0	.	.	.	.	.	.	.	.	.	.	
2.0	28AUG79	4-4	SLI	WHITE CRAPPIE	250	320	52.0	.	.	.	.	.	.	.	.	.	.	
2.0	28AUG79	4-5	SLI	WHITE CRAPPIE	205	110	30.5	.	.	.	.	.	.	.	.	.	.	
2.0	28AUG79	4-6	SLI	WHITE CRAPPIE	260	260	34.5	.	.	.	.	.	.	.	.	.	.	
2.0	28AUG79	COM	SLI	WHITE CRAPPIE	250	240	32.0	0.22	0.05	0.04	0.61	1.65	0.25	0.89	3.5	3.5	3.5	
2.0	28AUG79	5-1	SLI	L.M. BASS	280	310	30.0	.	.	.	.	.	.	.	.	.	.	
2.0	28AUG79	5-2	SLI	L.M. BASS	215	140	33.5	.	.	.	.	.	.	.	.	.	.	
2.0	28AUG79	5-3	SLI	L.M. BASS	205	100	22.3	.	.	.	.	.	.	.	.	.	.	
2.0	28AUG79	5-4	SLI	L.M. BASS	235	190	33.2	.	.	.	.	.	.	.	.	.	.	
2.0	28AUG79	5-5	SLI	L.M. BASS	235	190	30.7	.	.	.	.	.	.	.	.	.	.	
2.0	28AUG79	COM	SLI	L.M. BASS	170	110	26.0	0.06	< 0.02	< 0.02	0.23	0.61	0.14	0.40	1.4	1.4	1.4	
2.0	28AUG79	6-1	SLI	BLUEGILL	165	110	25.5	0.16	< 0.02	< 0.02	0.29	1.14	0.18	0.46	2.1	2.1	2.1	
2.0	28AUG79	6-2	SLI	BLUEGILL	155	90	20.5	0.87	< 0.02	< 0.02	0.68	2.74	0.52	1.23	5.2	5.2	5.2	
2.0	28AUG79	6-3	SLI	BLUEGILL	165	130	25.5	0.63	< 0.02	< 0.02	0.57	2.33	0.36	1.06	4.3	4.3	4.3	
2.0	28AUG79	6-4	SLI	BLUEGILL	155	90	20.5	1.25	0.05	< 0.02	1.38	3.36	0.58	1.18	6.6	6.6	6.6	
2.0	28AUG79	6-5	SLI	BLUEGILL	160	90	21.5	0.20	< 0.02	< 0.02	0.34	1.12	0.18	0.40	2.0	2.0	2.0	
2.0	28AUG79	6-6	SLI	BLUEGILL	150	70	18.0	0.26	< 0.02	< 0.02	0.33	1.29	0.19	0.52	2.3	2.3	2.3	
2.0	28AUG79	COM	SLI	BLUEGILL	150	70	18.0	0.45	0.05	< 0.02	0.62	2.23	0.34	0.96	4.2	4.2	4.2	M.D.
-----LIMESTONE CREEK -----																		
3.0	28AUG79	1-1	SLI	C. CATFISH	315	320	35.3	.	.	.	.	.	.	.	.	.	.	
3.0	28AUG79	1-2	SLI	C. CATFISH	420	800	97.0	.	.	.	.	.	.	.	.	.	.	
3.0	28AUG79	1-3	SLI	C. CATFISH	395	500	40.1	.	.	.	.	.	.	.	.	.	.	
3.0	28AUG79	1-4	SLI	C. CATFISH	390	500	82.0	.	.	.	.	.	.	.	.	.	.	
3.0	28AUG79	1-5	SLI	C. CATFISH	320	333	35.0	.	.	.	.	.	.	.	.	.	.	
3.0	28AUG79	1-6	SLI	C. CATFISH	360	460	39.0	.	.	.	.	.	.	.	.	.	.	
3.0	28AUG79	COM	SLI	C. CATFISH	445	1480	150.0	1.55	0.09	0.12	0.24	1.76	0.30	1.82	4.3	4.3	4.3	
3.0	28AUG79	2-1	SLI	S.M. BUFFALO	430	1260	158.0	1.10	< 0.02	< 0.02	0.02	0.17	0.07	0.70	1.0	1.0	1.0	
3.0	28AUG79	2-2	SLI	S.M. BUFFALO	430	1260	158.0	1.60	< 0.02	< 0.02	0.04	0.15	0.05	0.23	0.5	0.5	0.5	
3.0	28AUG79	2-3	SLI	S.M. BUFFALO	430	1340	142.0	0.35	< 0.02	< 0.02	< 0.02	0.06	0.02	0.17	0.3	0.3	0.3	
3.0	28AUG79	2-4	SLI	S.M. BUFFALO	480	1770	143.0	0.78	< 0.02	< 0.02	0.03	0.08	0.02	0.28	0.4	0.4	0.4	

TASK 1 - DOY LEVELS IN IMPORTANT FISH SPECIES THROUGHOUT WILSON, WHEELER, AND GUNTERVILLE RESERVOIRS

-----PAINT ROCK RIVER -----

TASK 1 - OOT LEVELS IN IMPORTANT FISH SPECIES THROUGHOUT WILSON, WHEELER, AND GUNTERSVILLE RESERVOIRS

---TENNESSEE RIVER---														
MILE	DATE	FID	LAB	SPECIES	LENGTH (MM)	T.WT. (GM)	FILET WT. (GM)	LIPIDS (%)	---CONCENTRATIONS OF DDT MEASURED IN FISH UG/G---					REMARK
									--DDT(UG/G)--	--DDD(UG/G)--	--DDE(UG/G)--	--TOTAL P,P (UG/G)--	DDTR-- MAX (UG/G)	
260-0	31JUL79	1-1		C. CATFISH	308	220	30-0	.	.	.	.	.	.	
260-0	31JUL79	1-2		C. CATFISH	315	250	33-0	.	.	.	.	.	.	
260-0	31JUL79	1-3		C. CATFISH	383	430	30-0	.	.	.	.	.	.	
260-0	31JUL79	1-4		C. CATFISH	316	230	30-0	.	.	.	.	.	.	
260-0	31JUL79	1-5		C. CATFISH	347	330	30-0	.	.	.	.	.	.	
260-0	31JUL79	1-6		C. CATFISH	359	380	30-0	.	.	.	.	.	.	
SLI 1-00P				C. CATFISH	.	.	.	0.75	0.04	0.03	0.22	0.06	0.6 M.O.	
260-0	31JUL79	5-1		L.M. BASS	288	335	30-0	.	.	.	.	.	.	
260-0	31JUL79	5-2		L.M. BASS	335	550	31-0	.	.	.	.	.	.	
260-0	31JUL79	5-3		L.M. BASS	302	345	33-0	.	.	.	.	.	.	
260-0	31JUL79	5-4		L.M. BASS	341	625	30-0	.	.	.	.	.	.	
260-0	31JUL79	5-5		L.M. BASS	251	220	32-0	.	.	.	.	.	.	
260-0	31JUL79	5-6		L.M. BASS	278	300	32-5	.	.	.	.	.	.	
SLI 1-00S				L.M. BASS	.	.	.	0.12 < 0.02 < 0.02 < 0.02	0.03	0.02	0.04	0.1	0.1	
260-0	31JUL79	6-1		BLUEGILL	135	47	28-2	.	.	.	.	.	.	
260-0	31JUL79	6-2		BLUEGILL	156	60	24-0	.	.	.	.	.	.	
260-0	31JUL79	6-3		BLUEGILL	145	45	28-0	.	.	.	.	.	.	
260-0	31JUL79	6-4		BLUEGILL	266	85	33-5	.	.	.	.	.	.	
260-0	31JUL79	6-5		BLUEGILL	279	120	34-0	.	.	.	.	.	.	
260-0	31JUL79	6-6		BLUEGILL	156	75	22-0	.	.	.	.	.	.	
SLI 1-010				BLUEGILL	.	.	.	0.04 < 0.02 < 0.02 < 0.02 < 0.02	0.01	0.01	0.0	0.1	.	
260-0	31JUL79	7-1		GIZZARD SHAD	250	140	33-0	.	.	.	.	.	.	
260-0	31JUL79	7-2		GIZZARD SHAD	233	110	26-0	.	.	.	.	.	.	
260-0	31JUL79	7-3		GIZZARD SHAD	247	170	30-0	.	.	.	.	.	.	
260-0	31JUL79	7-4		GIZZARD SHAD	245	120	26-5	.	.	.	.	.	.	
260-0	31JUL79	7-5		GIZZARD SHAD	248	130	23-0	.	.	.	.	.	.	
260-0	31JUL79	7-6		GIZZARD SHAD	252	150	30-0	.	.	.	.	.	.	
SLI 1-129				GIZZARD SHAD	.	.	.	1.71	0.10	0.13 < 0.02	0.16	0.19	0.6	
260-0	31JUL79	COM		BLUE CATFISH	401	550	31-0	.	.	.	.	.	.	
265-0	31JUL79	1-1		BLUE CATFISH	376	440	31-0	.	.	.	.	.	.	
265-0	31JUL79	1-2		BLUE CATFISH	416	600	30-0	.	.	.	.	.	.	
265-0	31JUL79	1-3		BLUE CATFISH	315	270	30-0	.	.	.	.	.	.	
265-0	31JUL79	1-4		BLUE CATFISH	341	350	30-0	.	.	.	.	.	.	
265-0	31JUL79	1-5		BLUE CATFISH	324	270	30-0	.	.	.	.	.	.	
265-0	31JUL79	1-6		BLUE CATFISH	.	.	.	.	.	.	.	.	.	
SLI 1-00S				BLUE CATFISH	.	.	.	0.64	0.04	0.02	0.12	0.14	0.4	
265-0	31JUL79	COM		L.M. BASS	270	275	30-0	.	.	.	.	.	.	
265-0	31JUL79	5-1		L.M. BASS	320	470	30-0	.	.	.	.	.	.	
265-0	31JUL79	5-2		L.M. BASS	261	249	30-0	.	.	.	.	.	.	
265-0	31JUL79	5-3		L.M. BASS	300	380	30-0	.	.	.	.	.	.	
265-0	31JUL79	5-4		L.M. BASS	224	170	30-0	.	.	.	.	.	.	
265-0	31JUL79	5-5		L.M. BASS	280	310	30-0	.	.	.	.	.	.	
265-0	31JUL79	5-6		L.M. BASS	.	.	.	.	.	.	.	.	.	
SLI 1-006				L.M. BASS	.	.	.	0.11 < 0.02 < 0.02 < 0.02	0.02 < 0.01	0.03	0.0	0.1	0.1	
265-0	31JUL79	COM		BLUEGILL	159	80	23-0	.	.	.	.	.	.	
265-0	31JUL79	6-1		BLUEGILL	149	70	23-5	.	.	.	.	.	.	
265-0	31JUL79	6-2		BLUEGILL	133	50	10-4	.	.	.	.	.	.	
265-0	31JUL79	6-3		BLUEGILL	150	60	12-0	.	.	.	.	.	.	
265-0	31JUL79	6-4		BLUEGILL	.	.	.	.	.	.	.	.	.	

TASK 1 - DOY LEVELS IN IMPORTANT FISH SPECIES THROUGHOUT WILSON, WHEELER, AND GUNTERSVILLE RESERVOIRS

[illegible]

11

TASK 1 - UDT LEVELS IN IMPORTANT FISH SPECIES THROUGHOUT WILSON, WHEELER, AND GUNTERVILLE RESERVOIRS

MILE	DATE	FID	LAB	LABID	SPECIES	LENGTH (MM)	T.WT (GM)	FILET WT. (GM)	---CONCENTRATIONS OF DDT MEASURED IN FISH,UG/G---										---TOTAL DDT---		REMARK
									LIPIDS (%)	--DDT (UG/G)-- O,P	--DDT (UG/G)-- P,P	--DDD (UG/G)-- O,P	--DDD (UG/G)-- P,P	--ODE (UG/G)-- O,P	--ODE (UG/G)-- P,P	MIN (UG/G)	MAX (UG/G)				
275.0	6AUG79	COM	SLI	1-112	WHITE CRAPPIE	.	.	.	0.05 < 0.02 < 0.02 < 0.02 < 0.02 < 0.03 < 0.01	0.02	0.02	0.0	0.0	0.1							
275.0	7AUG79	5-1			L.M. BASS	260	250	30.5	.	.	.	.	.	.	.	.					
275.0	7AUG79	5-2			L.M. BASS	220	120	21.0	.	.	.	.	.	.	.	.					
275.0	7AUG79	5-3			L.M. BASS	210	110	26.5	.	.	.	.	.	.	.	.					
275.0	7AUG79	5-4			L.M. BASS	250	220	32.5	.	.	.	.	.	.	.	.					
275.0	7AUG79	5-5			L.M. BASS	305	970	80.0	.	.	.	.	.	.	.	.					
275.0	7AUG79	5-6			L.M. BASS	330	420	40.0	.	.	.	.	.	.	.	.					
275.0	7AUG79	COM	SLI	1-172	L.M. BASS	.	.	.	0.10 < 0.02 < 0.02 < 0.02 < 0.02 < 0.01 < 0.01	0.01	0.01	0.0	0.0	0.1	1						
275.0	7AUG79	6-1			BLUEGILL	200	160	30.5	.	.	.	.	.	.	.	.					
275.0	7AUG79	6-2			BLUEGILL	185	130	21.5	.	.	.	.	.	.	.	.					
275.0	7AUG79	6-3			BLUEGILL	185	100	17.0	.	.	.	.	.	.	.	.					
275.0	7AUG79	6-4			BLUEGILL	175	110	25.0	.	.	.	.	.	.	.	.					
275.0	7AUG79	6-5			BLUEGILL	195	190	33.0	.	.	.	.	.	.	.	.					
275.0	7AUG79	6-6			BLUEGILL	180	120	25.0	.	.	.	.	.	.	.	.					
275.0	7AUG79	COM	SLI	1-149	BLUEGILL	.	.	.	0.09 < 0.02 < 0.02 < 0.02 < 0.03 < 0.01	0.08	0.01	0.0	0.1	0.2							
275.0	7AUG79	7-1			GIZZARD SHAD	265	190	.	.	.	.	.	.	.	.	.					
275.0	7AUG79	7-2			GIZZARD SHAD	260	210	.	.	.	.	.	.	.	.	.					
275.0	7AUG79	7-3			GIZZARD SHAD	285	170	.	.	.	.	.	.	.	.	.					
275.0	7AUG79	7-4			GIZZARD SHAD	260	180	.	.	.	.	.	.	.	.	.					
275.0	7AUG79	7-5			GIZZARD SHAD	265	180	.	.	.	.	.	.	.	.	.					
275.0	7AUG79	7-6			GIZZARD SHAD	260	190	.	.	.	.	.	.	.	.	.					
275.0	7AUG79	COM	SLI	1-155	GIZZARD SHAD	.	.	.	0.57 < 0.02 < 0.02 < 0.02 < 0.06 < 0.01	0.08	0.01	0.1	0.1	0.2							
280.0	.	1-1			C. CATFISH	463	1030	111.0	.	.	.	.	.	.	.	.					
280.0	.	1-2			C. CATFISH	462	980	120.0	.	.	.	.	.	.	.	.					
280.0	.	1-3			C. CATFISH	465	925	104.0	.	.	.	.	.	.	.	.					
280.0	.	1-4			C. CATFISH	342	400	39.0	.	.	.	.	.	.	.	.					
280.0	.	1-5			C. CATFISH	362	420	45.0	.	.	.	.	.	.	.	.					
280.0	.	1-6			C. CATFISH	325	325	33.0	.	.	.	.	.	.	.	.					
280.0	.	COM	SLI	1-116	C. CATFISH	.	.	.	1.17 0.04 0.02 0.06 0.29 0.06 0.24	0.24	0.06	0.7	0.7	0.7	M.D.						
280.0	.	2-1			S.M. BUFFALO	485	1930	38.0	.	.	.	.	.	.	.	.					
280.0	.	2-2			S.M. BUFFALO	510	2330	33.5	.	.	.	.	.	.	.	.					
280.0	.	2-3			S.M. BUFFALO	460	1580	89.0	.	.	.	.	.	.	.	.					
280.0	.	2-4			S.M. BUFFALO	450	1620	93.0	.	.	.	.	.	.	.	.					
280.0	.	2-5			S.M. BUFFALO	455	1680	170.0	.	.	.	.	.	.	.	.					
280.0	.	2-6			S.M. BUFFALO	495	1730	128.0	.	.	.	.	.	.	.	.					
280.0	.	COM	SLI	1-114	S.M. BUFFALO	.	.	.	4.23 0.05 0.20 0.30 0.91 0.27 1.12	1.12	0.27	2.8	2.8	2.8							
280.0	.	5-1			L.M. BASS	240	210	26.5	.	.	.	.	.	.	.	.					
280.0	.	5-2			L.M. BASS	310	440	65.0	.	.	.	.	.	.	.	.					
280.0	.	5-3			L.M. BASS	245	240	34.0	.	.	.	.	.	.	.	.					
280.0	.	5-4			L.M. BASS	420	1110	94.0	.	.	.	.	.	.	.	.					
280.0	.	5-5			L.M. BASS	370	760	74.0	.	.	.	.	.	.	.	.					
280.0	.	5-6			L.M. BASS	330	540	52.0	.	.	.	.	.	.	.	.					
280.0	.	COM	SLI	1-115	L.M. BASS	.	.	.	0.15 < 0.03 < 0.03 < 0.03 < 0.02 < 0.02 < 0.02	0.02	0.02	0.0	0.0	0.1	1						
280.0	6AUG79	6-1			BLUEGILL	187	105	19.0	.	.	.	.	.	.	.	.					
280.0	6AUG79	6-2			BLUEGILL	174	110	29.0	.	.	.	.	.	.	.	.					
280.0	6AUG79	6-3			BLUEGILL	200	170	34.0	.	.	.	.	.	.	.	.					
280.0	6AUG79	6-4			BLUEGILL	179	130	24.0	.	.	.	.	.	.	.	.					
280.0	6AUG79	6-5			BLUEGILL	175	110	21.0	.	.	.	.	.	.	.	.					
280.0	6AUG79	6-6			BLUEGILL	185	140	24.0	.	.	.	.	.	.	.	.					
280.0	6AUG79	COM	SLI	1-150	BLUEGILL	.	.	.	0.05 < 0.02 < 0.02 < 0.02 < 0.02 < 0.02 < 0.02	0.02	0.02	0.1	0.1	0.1							

12

--CONCENTRATIONS OF DOT MEASURED IN FISH--													--TOTAL DOT--		REMARK					
FILET													MIN	MAX						
MILE	DATE	FID	LAB	LABID	SPECIES	LENGTH (MM)	TWT (GM)	WT. (GM)	LIPIDS (%)	--DOT (UG/G)--				--DDE (UG/G)--						
										O.P.	P.P.	O.P.	P.P.	O.P.	P.P.	O.P.	P.P.			
285.0	9AUG79	1-1			BLUE CATFISH	415	720	39.0	.	.	.	.	.	.	.	.	.	.	.	.
285.0	9AUG79	1-2			BLUE CATFISH	490	124.0	37.5	.	.	.	.	.	.	.	.	.	.	.	
285.0	9AUG79	1-3			BLUE CATFISH	480	94.0	29.5	.	.	.	.	.	.	.	.	.	.	.	
285.0	9AUG79	1-4			BLUE CATFISH	510	144.0	35.0	.	.	.	.	.	.	.	.	.	.	.	
285.0	9AUG79	1-5			BLUE CATFISH	470	104.0	31.0	.	.	.	.	.	.	.	.	.	.	.	
285.0	9AUG79	1-6			BLUE CATFISH	525	135.0	30.5	.	.	.	.	.	.	.	.	.	.	.	
285.0	9AUG79	COM	SLI	1-024	BLUE CATFISH	.	.	.	2.20	0.23	0.26	0.31	1.56	0.35	1.19	3.9	3.9	.	.	
285.0	9AUG79	2-1			S.M. BUFFALO	440	150.0	35.0	.	.	.	.	.	.	.	.	.	.	.	
285.0	9AUG79	2-2			S.M. BUFFALO	540	285.0	35.5	.	.	.	.	.	.	.	.	.	.	.	
285.0	9AUG79	2-3			S.M. BUFFALO	450	131.0	33.5	.	.	.	.	.	.	.	.	.	.	.	
285.0	9AUG79	2-4			S.M. BUFFALO	470	210.0	38.0	.	.	.	.	.	.	.	.	.	.	.	
285.0	9AUG79	2-5			S.M. BUFFALO	410	133.0	40.5	.	.	.	.	.	.	.	.	.	.	.	
285.0	9AUG79	2-6			S.M. BUFFALO	535	224.0	31.0	.	.	.	.	.	.	.	.	.	.	.	
285.0	9AUG79	COM	SLI	1-027	S.M. BUFFALO	.	.	.	0.81	0.02	0.05	0.08	0.22	0.07	0.29	0.7	0.7	.	.	
285.0	9AUG79	5-1			L.M. BASS	275	26.0	31.5	.	.	.	.	.	.	.	.	.	.	.	
285.0	9AUG79	5-2			L.M. BASS	305	46.0	34.0	.	.	.	.	.	.	.	.	.	.	.	
285.0	9AUG79	5-3			L.M. BASS	295	39.0	34.0	.	.	.	.	.	.	.	.	.	.	.	
285.0	9AUG79	5-4			L.M. BASS	335	64.0	34.5	.	.	.	.	.	.	.	.	.	.	.	
285.0	9AUG79	5-5			L.M. BASS	310	47.0	36.5	.	.	.	.	.	.	.	.	.	.	.	
285.0	9AUG79	5-6			L.M. BASS	395	106.0	35.0	.	0.35	0.02	0.02	0.03	0.06	0.02	0.12	0.2	0.3	.	
285.0	9AUG79	COM	SLI	1-025	L.M. BASS	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
285.0	9AUG79	6-1			BLUEGILL	155	8.0	16.5	.	.	.	.	.	.	.	.	.	.	.	
285.0	9AUG79	6-2			BLUEGILL	160	9.0	18.0	.	.	.	.	.	.	.	.	.	.	.	
285.0	9AUG79	6-3			BLUEGILL	145	5.0	19.0	.	.	.	.	.	.	.	.	.	.	.	
285.0	9AUG79	6-4			BLUEGILL	165	10.0	24.5	.	.	.	.	.	.	.	.	.	.	.	
285.0	9AUG79	6-5			BLUEGILL	140	7.0	13.5	.	.	.	.	.	.	.	.	.	.	.	
285.0	9AUG79	6-6			BLUEGILL	150	8.0	16.0	.	.	.	.	.	.	.	.	.	.	.	
285.0	9AUG79	COM	SLI	1-029	BLUEGILL	.	.	.	0.05	0.02	0.03	0.01	0.01	0.01	0.01	0.0	0.1	.	.	
285.0	6SEP79	3-1			WHITE BASS	274	24.0	35.0	.	.	.	.	.	.	.	.	.	.	.	
285.0	6SEP79	3-2			WHITE BASS	260	24.0	33.0	.	.	.	.	.	.	.	.	.	.	.	
285.0	6SEP79	3-3			WHITE BASS	294	33.0	43.0	.	.	.	.	.	.	.	.	.	.	.	
285.0	6SEP79	COM	SLI	1-125	WHITE BASS	260	225	35.7	0.20	0.02	0.02	0.02	0.07	0.01	0.08	0.1	0.2	.	.	
290.0	9AUG79	1-1	SLI	1-036A	C. CATFISH	500	150.0	33.0	2.64	0.17	0.09	0.27	0.66	0.26	0.70	2.2	2.2	.	.	
290.0	9AUG79	1-2	SLI	1-030B	C. CATFISH	450	103.0	35.5	2.37	0.14	0.12	0.42	0.15	0.29	1.0	1.0	1.0	.	.	
290.0	9AUG79	1-3	SLI	1-030C	BLUE CATFISH	290	26.0	36.5	4.28	0.15	0.02	0.35	0.44	0.32	0.61	1.9	1.9	.	.	
290.0	9AUG79	1-4	SLI	1-030D	C. CATFISH	345	31.0	31.0	3.66	0.02	0.02	0.04	0.20	0.05	0.15	0.4	0.5	.	.	
290.0	9AUG79	1-5	SLI	1-030E	C. CATFISH	370	53.0	31.0	4.78	0.05	0.03	0.08	0.26	0.09	0.24	0.7	0.7	.	.	
290.0	9AUG79	1-6	SLI	1-030F	BLUE CATFISH	275	23.0	29.5	2.17	0.02	0.02	0.02	0.30	0.08	0.27	0.7	0.7	.	.	
290.0	9AUG79	COM	SLI	1-031	BLUE CATFISH	.	.	.	2.66	0.15	0.06	0.09	0.81	0.22	0.63	2.0	2.0	.	.	
290.0	9AUG79	2-1	SLI	1-031A	S.M. BUFFALO	450	153.0	33.0	5.75	0.02	0.02	0.02	0.08	0.04	0.09	0.2	0.3	.	.	
290.0	9AUG79	2-2	SLI	1-031B	S.M. BUFFALO	460	179.0	34.0	6.07	0.02	0.04	0.13	0.32	0.13	0.31	0.9	0.9	.	.	
290.0	9AUG79	2-3	SLI	1-031C	S.M. BUFFALO	610	413.0	34.5	3.56	0.10	0.11	0.12	0.29	0.16	0.58	1.4	1.4	.	.	
290.0	9AUG79	2-4	SLI	1-031D	S.M. BUFFALO	465	223.0	36.5	3.69	0.17	0.20	0.62	0.95	0.56	1.99	4.5	4.5	.	.	
290.0	9AUG79	2-5	SLI	1-031E	S.M. BUFFALO	660	530.0	36.5	6.36	0.04	0.06	0.11	0.25	0.14	0.45	1.1	1.1	.	.	
290.0	9AUG79	2-6	SLI	1-031F	S.M. BUFFALO	570	356.0	33.5	4.25	0.15	0.11	0.13	0.32	0.21	0.93	1.8	1.8	.	.	
290.0	9AUG79	COM	SLI	1-031	S.M. BUFFALO	.	.	.	0.05	0.33	0.67	0.67	1.30	0.44	1.73	5.1	5.1	.	.	
290.0	9AUG79	4-1			WHITE CRAPPIE	240	23.0	31.5	.	.	.	.	.	.	.	.	.	.	.	
290.0	9AUG79	4-2			WHITE CRAPPIE	240	17.0	34.5	.	.	.	.	.	.	.	.	.	.	.	
290.0	9AUG79	4-3			WHITE CRAPPIE	200	10.0	30.5	.	.	.	.	.	.	.	.	.	.	.	
290.0	9AUG79	4-4			WHITE CRAPPIE	220	16.0	38.0	.	.	.	.	.	.	.	.	.	.	.	

---CONCENTRATIONS OF DDT MEASURED IN FISH,UG/G---													TOTAL DDT---										
MILE	DATE	FID	LAB	SPECIES	LENGTH (MM)	T.WT (GM)	FILE WT. (GM)	LIPIDS								--DDT(UG/G)--		--ODE(UG/G)--		MIN		MAX	
								(%)	O,P	O,P	P,P	O,P	O,P	P,P	O,P	P,P	O,P	P,P	UG/G	UG/G	UG/G	UG/G	
290-0	9AUG79	4-5		WHITE CRAPPIE	205	100	29-0	.	.	.	.	.	.	.	.	.	.	.	.	.	.		
290-0	9AUG79	4-6		WHITE CRAPPIE	230	170	36-5	.	.	.	.	.	.	.	.	.	.	.	.	.	.		
290-0	9AUG79	COM	SLI 1-032	WHITE CRAPPIE	.	.	.	0.07 < 0.02 < 0.02	< 0.02 < 0.02	< 0.02 < 0.01	< 0.01	< 0.01	< 0.01	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1		
290-0	9AUG79	5-1		L.M. BASS	305	460	37-5	.	.	.	.	.	.	.	.	.	.	.	.	.	.		
290-0	9AUG79	5-2		L.M. BASS	265	260	34-0	.	.	.	.	.	.	.	.	.	.	.	.	.	.		
290-0	9AUG79	5-3		L.M. BASS	290	300	34-5	.	.	.	.	.	.	.	.	.	.	.	.	.	.		
290-0	9AUG79	5-4		L.M. BASS	235	190	29-5	.	.	.	.	.	.	.	.	.	.	.	.	.	.		
290-0	9AUG79	5-5		L.M. BASS	245	210	31-0	.	.	.	.	.	.	.	.	.	.	.	.	.	.		
290-0	9AUG79	5-6		L.M. BASS	360	770	40-0	.	.	.	.	.	.	.	.	.	.	.	.	.	.		
290-0	9AUG79	COM	SLI 1-033	L.M. BASS	.	.	.	0.14 < 0.02	0.02 < 0.02	0.03	0.01	0.09	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2		
290-0	9AUG79	6-1		BLUEGILL	180	130	27-5	.	.	.	.	.	.	.	.	.	.	.	.	.	.		
290-0	9AUG79	6-2		BLUEGILL	175	100	23-0	.	.	.	.	.	.	.	.	.	.	.	.	.	.		
290-0	9AUG79	6-3		BLUEGILL	160	110	21-0	.	.	.	.	.	.	.	.	.	.	.	.	.	.		
290-0	9AUG79	6-4		BLUEGILL	170	100	19-0	.	.	.	.	.	.	.	.	.	.	.	.	.	.		
290-0	9AUG79	6-5		BLUEGILL	165	80	17-0	.	.	.	.	.	.	.	.	.	.	.	.	.	.		
290-0	9AUG79	6-6		BLUEGILL	165	90	17-0	.	.	.	.	.	.	.	.	.	.	.	.	.	.		
290-0	9AUG79	COM	SLI 1-034	BLUEGILL	.	.	.	0.05 < 0.02 < 0.03	< 0.03 < 0.01	< 0.01 < 0.01	< 0.01	0.01	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1		
295-0	13AUG79	1-1		C. CATFISH	450	1300	38-5	.	.	.	.	.	.	.	.	.	.	.	.	.	.		
295-0	13AUG79	1-2		C. CATFISH	430	940	40-0	.	.	.	.	.	.	.	.	.	.	.	.	.	.		
295-0	13AUG79	1-3		C. CATFISH	490	1290	40-0	.	.	.	.	.	.	.	.	.	.	.	.	.	.		
295-0	13AUG79	1-4		C. CATFISH	525	1570	34-0	.	.	.	.	.	.	.	.	.	.	.	.	.	.		
295-0	13AUG79	1-5		C. CATFISH	550	1800	34-0	.	.	.	.	.	.	.	.	.	.	.	.	.	.		
295-0	13AUG79	1-6		C. CATFISH	590	2270	32-0	.	.	.	.	.	.	.	.	.	.	.	.	.	.		
295-0	13AUG79	COM	SLI 1-035	C. CATFISH	.	.	.	2.96	0.18	0.23	0.21	0.59	0.16	0.57	1.9	1.9	1.9	1.9	1.9	1.9	1.9		
295-0	13AUG79	2-1		S.M. BUFFALO	445	1400	35-5	.	.	.	.	.	.	.	.	.	.	.	.	.	.		
295-0	13AUG79	2-2		S.M. BUFFALO	465	1740	37-0	.	.	.	.	.	.	.	.	.	.	.	.	.	.		
295-0	13AUG79	2-3		S.M. BUFFALO	435	1370	33-5	.	.	.	.	.	.	.	.	.	.	.	.	.	.		
295-0	13AUG79	2-4		S.M. BUFFALO	405	1090	35-0	.	.	.	.	.	.	.	.	.	.	.	.	.	.		
295-0	13AUG79	2-5		S.M. BUFFALO	370	1050	31-0	.	.	.	.	.	.	.	.	.	.	.	.	.	.		
295-0	13AUG79	2-6		S.M. BUFFALO	385	870	30-0	.	.	.	.	.	.	.	.	.	.	.	.	.	.		
295-0	13AUG79	COM	SLI 1-036	S.M. BUFFALO	.	.	.	2.79	0.09	0.17	0.29	0.72	0.21	0.66	2.1	2.1	2.1	2.1	2.1	2.1	2.1		
295-0	13AUG79	3-1		WHITE BASS	230	200	31-5	.	.	.	.	.	.	.	.	.	.	.	.	.	.		
295-0	13AUG79	3-2		WHITE BASS	260	280	35-0	.	.	.	.	.	.	.	.	.	.	.	.	.	.		
295-0	13AUG79	3-3		WHITE BASS	245	190	29-5	.	.	.	.	.	.	.	.	.	.	.	.	.	.		
295-0	13AUG79	3-4		WHITE BASS	270	260	32-0	.	.	.	.	.	.	.	.	.	.	.	.	.	.		
295-0	13AUG79	3-5		WHITE BASS	220	140	33-0	.	.	.	.	.	.	.	.	.	.	.	.	.	.		
295-0	13AUG79	3-6		WHITE BASS	270	250	31-0	.	.	.	.	.	.	.	.	.	.	.	.	.	.		
295-0	13AUG79	COM	SLI 1-037	WHITE BASS	.	.	.	0.24 < 0.02	0.06	0.07	0.26	0.06	0.35	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8		
295-0	13AUG79	4-1		WHITE CRAPPIE	260	250	32-5	.	.	.	.	.	.	.	.	.	.	.	.	.	.		
295-0	13AUG79	4-2		WHITE CRAPPIE	230	150	30-0	.	.	.	.	.	.	.	.	.	.	.	.	.	.		
295-0	13AUG79	4-3		WHITE CRAPPIE	200	95	24-0	.	.	.	.	.	.	.	.	.	.	.	.	.	.		
295-0	13AUG79	4-4		WHITE CRAPPIE	190	120	31-5	.	.	.	.	.	.	.	.	.	.	.	.	.	.		
295-0	13AUG79	4-5		WHITE CRAPPIE	265	190	37-0	.	.	.	.	.	.	.	.	.	.	.	.	.	.		
295-0	13AUG79	4-6		WHITE CRAPPIE	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.		
295-0	13AUG79	COM	SLI 1-038	WHITE CRAPPIE	.	.	.	0.05 < 0.02 < 0.03	< 0.03 < 0.01	< 0.01 < 0.01	< 0.01	0.01	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1		
295-0	13AUG79	5-1		L.M. BASS	255	230	30-0	.	.	.	.	.	.	.	.	.	.	.	.	.	.		
295-0	13AUG79	5-2		L.M. BASS	235	160	30-0	.	.	.	.	.	.	.	.	.	.	.	.	.	.		
295-0	13AUG79	5-3		L.M. BASS	290	360	35-0	.	.	.	.	.	.	.	.	.	.	.	.	.	.		
295-0	13AUG79	5-4		L.M. BASS	275	320	37-0	.	.	.	.	.	.	.	.	.	.	.	.	.	.		
295-0	13AUG79	5-5		L.M. BASS	270	310	39-0	.	.	.	.	.	.	.	.	.	.	.	.	.	.		

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
MUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS — WHEELER RESERVOIR, ALABAMA
TASK 1 - DDT LEVELS IN IMPORTANT FISH SPECIES THROUGHOUT WILSON, WHEELER, AND GUNTERSVILLE RESERVOIRS

---CONCENTRATIONS OF DDT MEASURED IN FISH,UG/G---																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
MILE	DATE	FID	LAB	LAB'L	SPECIES	LENGTH (MM)	T.WT (GM)	FILET WT. (GM)	LIPIDS										--TOTAL DDT--																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
									(%)	O,P	O,P	P,P	O,P	O,P	O,P	O,P	O,P	O,P	O,P	O,P	O,P	P,P	P,P	MIN	MAX																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
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ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS — WHEELER RESERVOIR, ALABAMA

TASK 1 - DDT LEVELS IN IMPORTANT FISH SPECIES THROUGHOUT WILSON, WHEELER, AND GUNTERSVILLE RESERVOIRS

MILE	DATE	FID	LAB	LABID	SPECIES	LENGTH (MM)	T.WT (GM)	FILET WT. (GM)	---CONCENTRATIONS OF DDT MEASURED IN FISH,UG/G---										---TOTAL DDT---		REMARK
									LIPIDS (%)	--DDT(UG/G)-- O,P	--DDT(UG/G)-- P,P	--DDT(UG/G)-- O,P	--DDT(UG/G)-- P,P	--DDT(UG/G)-- O,P	--DDT(UG/G)-- P,P	--DDT(UG/G)-- O,P	--DDT(UG/G)-- P,P	--DDT(UG/G)-- O,P	MIN (UG/G)	MAX (UG/G)	
305.0	16AUG79	COM	SLI	1-086	C. CATFISH	325	2430	186.0	3.71	0.58	0.70	1.17	5.66	0.98	3.70	12.8	12.8				
305.0	16AUG79	2-1			S.M. BUFFALO				.	.	.	.	.	.	.	.	.	.			
305.0	16AUG79	2-2			S.M. BUFFALO	490	1950	114.0	.	.	.	.	.	.	.	.	.	.			
305.0	16AUG79	2-3			S.M. BUFFALO	485	2190	126.0	.	.	.	.	.	.	.	.	.	.			
305.0	16AUG79	2-4			S.M. BUFFALO	500	2130	121.0	.	.	.	.	.	.	.	.	.	.			
305.0	16AUG79	2-5			S.M. BUFFALO	490	2290	182.0	.	.	.	.	.	.	.	.	.	.			
305.0	16AUG79	2-6			S.M. BUFFALO	450	2020	148.0	.	.	.	.	.	.	.	.	.	.			
305.0	16AUG79	COM	SLI	1-093	S.M. BUFFALO	265	250	30.5	0.73	< 0.02	< 0.02	< 0.02	0.11	0.04	0.11	0.3	0.3				
305.0	16AUG79	5-1			L.M. BASS	385	920	35.5	.	.	.	.	.	.	.	.	.	.			
305.0	16AUG79	5-2			L.M. BASS	380	800	36.0	.	.	.	.	.	.	.	.	.	.			
305.0	16AUG79	5-3			L.M. BASS	320	510	30.5	.	.	.	.	.	.	.	.	.	.			
305.0	16AUG79	5-4			L.M. BASS	365	860	38.0	.	.	.	.	.	.	.	.	.	.			
305.0	16AUG79	5-5			L.M. BASS	215	140	27.7	.	.	.	.	.	.	.	.	.	.			
305.0	16AUG79	5-6			L.M. BASS	175	110	24.5	0.04	< 0.02	< 0.02	< 0.02	0.09	< 0.01	0.05	0.1	0.2	1 *			
305.0	16AUG79	6-1			BLUEGILL	155	60	17.0	.	.	.	.	.	.	.	.	.	.			
305.0	16AUG79	6-2			BLUEGILL	150	70	13.5	.	.	.	.	.	.	.	.	.	.			
305.0	16AUG79	6-3			BLUEGILL	145	50	12.5	.	.	.	.	.	.	.	.	.	.			
305.0	16AUG79	6-4			BLUEGILL	140	50	13.0	.	.	.	.	.	.	.	.	.	.			
305.0	16AUG79	6-5			BLUEGILL	145	60	12.0	.	.	.	.	.	.	.	.	.	.			
305.0	16AUG79	6-6			BLUEGILL	370	510	63.0	0.04	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.01	0.0	0.1	1 *			
310.0	23AUG79	1-1			C. CATFISH	380	540	63.0	.	.	.	.	.	.	.	.	.	.			
310.0	23AUG79	1-2			C. CATFISH	380	490	55.0	.	.	.	.	.	.	.	.	.	.			
310.0	23AUG79	1-3			C. CATFISH	435	830	90.0	.	.	.	.	.	.	.	.	.	.			
310.0	23AUG79	1-4			C. CATFISH	410	570	42.0	.	.	.	.	.	.	.	.	.	.			
310.0	23AUG79	1-5			C. CATFISH	340	360	41.0	.	.	.	.	.	.	.	.	.	.			
310.0	23AUG79	1-6			C. CATFISH	450	1570	157.0	0.69	0.03	0.03	0.14	0.50	0.09	0.38	1.2	1.2	M.D.			
310.0	23AUG79	COM	SLI	1-120	C. CATFISH	425	1160	137.0	.	.	.	.	.	.	.	.	.	.			
310.0	23AUG79	2-1			S.M. BUFFALO	460	1730	126.0	.	.	.	.	.	.	.	.	.	.			
310.0	23AUG79	2-2			S.M. BUFFALO	470	1700	170.0	.	.	.	.	.	.	.	.	.	.			
310.0	23AUG79	2-3			S.M. BUFFALO	450	1270	141.0	.	.	.	.	.	.	.	.	.	.			
310.0	23AUG79	2-4			S.M. BUFFALO	500	2050	228.0	.	.	.	.	.	.	.	.	.	.			
310.0	23AUG79	2-5			S.M. BUFFALO	216	310	43.0	2.71	0.18	0.24	0.34	0.85	0.28	1.28	3.2	3.2				
310.0	23AUG79	2-6			S.M. BUFFALO	225	170	28.0	.	.	.	.	.	.	.	.	.	.			
310.0	23AUG79	COM	SLI	1-121	WHITE CRAPPIE	223	150	42.0	.	.	.	.	.	.	.	.	.	.			
310.0	23AUG79	4-1			WHITE CRAPPIE	212	140	39.0	.	.	.	.	.	.	.	.	.	.			
310.0	23AUG79	4-2			WHITE CRAPPIE	207	130	38.0	.	.	.	.	.	.	.	.	.	.			
310.0	23AUG79	4-3			WHITE CRAPPIE	201	120	32.0	.	.	.	.	.	.	.	.	.	.			
310.0	23AUG79	4-4			WHITE CRAPPIE	295	400	50.0	0.02	< 0.02	< 0.02	< 0.02	0.05	< 0.01	0.04	0.1	0.2				
310.0	23AUG79	4-5			WHITE CRAPPIE	315	440	63.0	.	.	.	.	.	.	.	.	.	.			
310.0	23AUG79	4-6			L.M. BASS	375	760	100.0	.	.	.	.	.	.	.	.	.	.			
310.0	23AUG79	5-1			L.M. BASS	245	190	38.5	.	.	.	.	.	.	.	.	.	.			
310.0	23AUG79	5-2			L.M. BASS	300	440	47.0	.	.	.	.	.	.	.	.	.	.			
310.0	23AUG79	5-3			L.M. BASS	270	280	41.0	.	.	.	.	.	.	.	.	.	.			
310.0	23AUG79	5-4			L.M. BASS	175	110	24.5	0.08	< 0.02	< 0.02	< 0.02	0.05	< 0.01	0.05	0.1	0.2	1			
310.0	23AUG79	5-5			L.M. BASS	155	60	17.0	.	.	.	.	.	.	.	.	.	.			
310.0	23AUG79	5-6			L.M. BASS	150	70	13.5	.	.	.	.	.	.	.	.	.	.			
310.0	23AUG79	COM	SLI	1-122	L.M. BASS	145	50	12.5	.	.	.	.	.	.	.	.	.	.			

ENGINEERING AND ENVIRONMENTAL STUDY OF DOI CONTAMINATION HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS -- WHEELER RESERVOIR, ALABAMA

TASK 1 - JDT LEVELS IN IMPORTANT FISH SPECIES THROUGHOUT WILSON, WHEELER, AND GUNTERVILLE RESERVOIRS

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ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS — WHEELER RESERVOIR, ALABAMA

TASK 1 - DDT LEVELS IN IMPORTANT FISH SPECIES THROUGHOUT WILSON, WHEELER, AND GUNTERSVILLE RESERVOIRS

MILE	DATE	FID LAB	SPECIES	LENGTH (MM)	T.WT (GM)	FILET WT. (GM)	--CONCENTRATIONS OF DDT MEASURED IN FISH,UG/G--										--TOTAL DDT--		REMARK
							LIPIDS		--DDT(UG/G)--		--ODE(UG/G)--		P,P		P,P		MIN	MAX	
							(%)	(%)	O,P	P,P	O,P	P,P	O,P	P,P	(UG/G)	(UG/G)			
320.0	30AUG79	2-2	S.M. BUFFALO	308	460	48.0	.	.	.	.	.	.	.	.	.	.	.	.	
320.0	30AUG79	2-3	S.M. BUFFALO	326	570	89.0	.	.	.	.	.	.	.	.	.	.	.	.	
320.0	30AUG79	2-4	S.M. BUFFALO	472	700	71.0	.	.	.	.	.	.	.	.	.	.	.	.	
320.0	30AUG79	2-5	S.M. BUFFALO	364	780	105.0	.	.	.	.	.	.	.	.	.	.	.	.	
320.0	30AUG79	2-6	S.M. BUFFALO	348	600	70.0	.	.	.	.	.	.	.	.	.	.	.	.	
320.0	30AUG79	COM SLT	S.M. BUFFALO	.	.	.	1.51	< 0.02	< 0.02	0.13	0.35	0.13	0.59	1.2	0.59	1.2	1.2	1.2	
320.0	30AUG79	5-1	L.M. BASS	345	680	87.0	.	.	.	.	.	.	.	.	.	.	.	.	
320.0	30AUG79	5-2	L.M. BASS	260	280	31.9	.	.	.	.	.	.	.	.	.	.	.	.	
320.0	30AUG79	5-3	L.M. BASS	230	150	31.0	.	.	.	.	.	.	.	.	.	.	.	.	
320.0	30AUG79	5-4	L.M. BASS	215	140	35.6	.	.	.	.	.	.	.	.	.	.	.	.	
320.0	30AUG79	5-5	L.M. BASS	220	130	32.1	.	.	.	.	.	.	.	.	.	.	.	.	
320.0	30AUG79	5-6	L.M. BASS	180	70	17.3	.	.	.	.	.	.	.	.	.	.	.	.	
320.0	30AUG79	COM SLI	L.M. BASS	.	.	.	0.21	< 0.07	< 0.11	0.46	1.18	0.19	0.79	2.8	0.79	2.8	2.8	2.8	
320.0	30AUG79	6-1	BLUEGILL	200	140	28.1	.	.	.	.	.	.	.	.	.	.	.	.	
320.0	30AUG79	6-2	BLUEGILL	170	100	21.1	.	.	.	.	.	.	.	.	.	.	.	.	
320.0	30AUG79	6-3	BLUEGILL	165	80	15.9	.	.	.	.	.	.	.	.	.	.	.	.	
320.0	30AUG79	6-4	BLUEGILL	162	80	16.5	.	.	.	.	.	.	.	.	.	.	.	.	
320.0	30AUG79	6-5	BLUEGILL	173	110	21.9	.	.	.	.	.	.	.	.	.	.	.	.	
320.0	30AUG79	6-6	BLUEGILL	145	50	12.2	.	.	.	.	.	.	.	.	.	.	.	.	
320.0	30AUG79	COM SLI	BLUEGILL	.	.	.	0.14	< 0.02	< 0.09	0.03	0.23	0.04	0.27	0.7	0.27	0.7	0.7	0.7	
325.0	30AUG79	1-1	C. CATFISH	325	250	31.5	.	.	.	.	.	.	.	.	.	.	.	.	
325.0	30AUG79	1-2	C. CATFISH	290	210	36.0	.	.	.	.	.	.	.	.	.	.	.	.	
325.0	30AUG79	1-3	C. CATFISH	269	180	35.5	.	.	.	.	.	.	.	.	.	.	.	.	
325.0	30AUG79	1-4	C. CATFISH	310	230	37.5	.	.	.	.	.	.	.	.	.	.	.	.	
325.0	30AUG79	1-5	C. CATFISH	293	220	33.0	.	.	.	.	.	.	.	.	.	.	.	.	
325.0	30AUG79	1-6	C. CATFISH	321	300	34.5	.	.	.	.	.	.	.	.	.	.	.	.	
325.0	30AUG79	COM SLI	C. CATFISH	.	.	.	1.62	< 0.02	< 0.03	< 0.02	0.09	0.04	0.11	0.3	0.11	0.3	0.3	0.3	
325.0	30AUG79	2-1	S.M. BUFFALO	460	1390	178.0	.	.	.	.	.	.	.	.	.	.	.	.	
325.0	30AUG79	2-2	S.M. BUFFALO	475	1690	156.0	.	.	.	.	.	.	.	.	.	.	.	.	
325.0	30AUG79	2-3	S.M. BUFFALO	437	1250	41.5	.	.	.	.	.	.	.	.	.	.	.	.	
325.0	30AUG79	2-4	S.M. BUFFALO	421	1200	125.0	.	.	.	.	.	.	.	.	.	.	.	.	
325.0	30AUG79	2-5	S.M. BUFFALO	460	1500	179.0	.	.	.	.	.	.	.	.	.	.	.	.	
325.0	30AUG79	2-6	S.M. BUFFALO	281	380	67.0	.	.	.	.	.	.	.	.	.	.	.	.	
325.0	30AUG79	COM SLI	S.M. BUFFALO	.	.	.	1.17	0.13	0.18	0.10	0.27	0.12	0.47	1.3	0.47	1.3	1.3	1.3	
325.0	30AUG79	5-1	L.M. BASS	353	700	59.0	.	.	.	.	.	.	.	.	.	.	.	.	
325.0	30AUG79	5-2	L.M. BASS	358	680	103.0	.	.	.	.	.	.	.	.	.	.	.	.	
325.0	30AUG79	5-3	L.M. BASS	211	130	26.5	.	.	.	.	.	.	.	.	.	.	.	.	
325.0	30AUG79	5-4	L.M. BASS	268	250	37.5	.	.	.	.	.	.	.	.	.	.	.	.	
325.0	30AUG79	5-5	L.M. BASS	222	180	31.2	.	.	.	.	.	.	.	.	.	.	.	.	
325.0	30AUG79	5-6	L.M. BASS	191	80	26.5	.	.	.	.	.	.	.	.	.	.	.	.	
325.0	30AUG79	COM SLI	L.M. BASS	.	.	.	0.30	0.18	0.25	1.21	2.51	0.39	1.48	6.0	1.48	6.0	6.0	6.0	
325.0	30AUG79	6-1	BLUEGILL	165	100	20.0	.	.	.	.	.	.	.	.	.	.	.	.	
325.0	30AUG79	6-2	BLUEGILL	166	100	16.5	.	.	.	.	.	.	.	.	.	.	.	.	
325.0	30AUG79	6-3	BLUEGILL	167	100	16.0	.	.	.	.	.	.	.	.	.	.	.	.	
325.0	30AUG79	6-4	BLUEGILL	153	70	13.1	.	.	.	.	.	.	.	.	.	.	.	.	
325.0	30AUG79	6-5	BLUEGILL	163	100	19.0	.	.	.	.	.	.	.	.	.	.	.	.	
325.0	30AUG79	6-6	BLUEGILL	153	70	18.9	.	.	.	.	.	.	.	.	.	.	.	.	
325.0	30AUG79	COM SLI	BLUEGILL	.	.	.	0.18	< 0.02	< 0.02	< 0.02	0.06	0.01	0.05	0.1	0.05	0.1	0.1	0.1	
325.0	30AUG79	7-1	1-13.2A GIZZARD SHAD	275	85	.	0.13	< 0.02	< 0.02	< 0.02	< 0.01	< 0.01	< 0.01	0.0	< 0.01	0.0	0.0	0.0	
325.0	30AUG79	7-2	1-13.2B GIZZARD SHAD	175	45	.	0.81	< 0.02	< 0.02	< 0.02	0.12	0.03	0.12	0.3	0.12	0.3	0.3	0.3	

ENGINEERING AND ENVIRONMENTAL STUDY OF DOT CONTAMINATION
MUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS — WHEELER RESERVOIR, ALABAMA

TASK 1 - DOT LEVELS IN IMPORTANT FISH SPECIES THROUGHOUT WILSON, WHEELER, AND GUNTERSVILLE RESERVOIRS

---CONCENTRATIONS OF DDT MEASURED IN FISH,UG/G---											---TOTAL DDT---								
MILE	DATE	FID	LAB	LAB ID	SPECIES	LENGTH (MM)	T.WT (GM)	FILET WT. (GM)	LIPIDS				P,P				P,P		REMARK
									(%)	O,P	P,P	O,P	DDT(UG/G)	DDD(UG/G)	DDE(UG/G)	P,P	O,P	MIN (UG/G)	
325.0	30AUG79	7-3	SLI	1-132C	GIZZARD SHAD	213	90	.	2.33	0.41	0.54	0.82	6.81	0.63	5.08	14.3	14.3		
325.0	30AUG79	7-4	SLI	1-132D	GIZZARD SHAD	212	90	.	1.79	0.60	1.09	3.45	14.00	1.67	11.30	32.1	32.1		
325.0	30AUG79	7-5	SLI	1-132E	GIZZARD SHAD	265	100	.	0.22	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	0.03	0.0	0.1	M.D.	
325.0	30AUG79	7-6	SLI	1-132F	GIZZARD SHAD	194	70	.	2.09	0.20	0.46	1.35	8.61	0.58	5.46	16.7	16.7		
325.0	30AUG79	COM	SLI	1-132	GIZZARD SHAD	.	.	.	0.90	0.13	0.30	0.59	3.88	0.25	2.92	8.1	8.1	M.D.	
330.0	30AUG79	5-1	SLI	1-072A	L.M. BASS	235	176	53.0	0.20	< 0.02	< 0.02	0.24	0.90	0.10	0.70	1.9	2.0		
330.0	30AUG79	5-2	SLI	1-072B	L.M. BASS	325	56	91.0	0.16	0.03	0.11	0.71	1.24	0.21	0.62	2.9	2.9		
330.0	30AUG79	5-3	SLI	1-072C	L.M. BASS	330	555	85.0	0.32	0.40	1.04	3.20	6.73	1.04	3.68	16.1	16.1		
330.0	30AUG79	5-4	SLI	1-072D	L.M. BASS	304	335	52.0	0.31	0.11	0.18	1.26	2.09	0.44	1.08	5.2	5.2		
330.0	30AUG79	5-5	SLI	1-072E	L.M. BASS	308	426	57.0	0.12	< 0.02	< 0.02	0.06	0.22	0.04	0.21	0.5	0.6		
330.0	30AUG79	5-6	SLI	1-072F	L.M. BASS	291	348	55.0	0.31	0.09	0.15	1.03	2.00	0.29	0.92	4.5	4.5		
330.0	30AUG79	COM	SLI	1-072	L.M. BASS	.	.	.	0.09	0.05	0.06	0.43	1.06	0.13	0.54	2.3	2.3	M.D.	
330.0	30AUG79	6-1	SLI	1-073	BLUEGILL	166	101	28.0	.	.	.	.	.	.	.	.	.		
330.0	30AUG79	6-2	SLI	1-073	BLUEGILL	168	118	29.0	.	.	.	.	.	.	.	.	.		
330.0	30AUG79	6-3	SLI	1-073	BLUEGILL	180	125	25.0	.	.	.	.	.	.	.	.	.		
330.0	30AUG79	6-4	SLI	1-073	BLUEGILL	150	80	15.0	.	.	.	.	.	.	.	.	.		
330.0	30AUG79	6-5	SLI	1-073	BLUEGILL	166	110	16.0	.	.	.	.	.	.	.	.	.		
330.0	30AUG79	6-6	SLI	1-073	BLUEGILL	153	68	8.0	0.11	< 0.02	< 0.02	< 0.02	0.06	< 0.01	< 0.01	0.1	0.1		
330.0	5SEP79	1-1	SLI	1-087	C. CATFISH	395	410	53.0	.	.	.	.	.	.	.	.	.		
330.0	5SEP79	1-2	SLI	1-087	C. CATFISH	559	370	58.0	.	.	.	.	.	.	.	.	.		
330.0	5SEP79	1-3	SLI	1-087	C. CATFISH	343	380	38.0	.	.	.	.	.	.	.	.	.		
330.0	5SEP79	1-4	SLI	1-087	C. CATFISH	395	445	67.0	.	.	.	.	.	.	.	.	.		
330.0	5SEP79	1-5	SLI	1-087	C. CATFISH	453	950	144.0	.	.	.	.	.	.	.	.	.		
330.0	5SEP79	1-6	SLI	1-087	C. CATFISH	418	660	51.0	.	.	.	.	.	.	.	.	.		
330.0	5SEP79	COM	SLI	1-087	C. CATFISH	.	.	.	1.09	0.08	< 0.02	< 0.02	0.09	0.05	0.11	0.3	0.4		
330.0	5SEP79	2-1	SLI	1-156	S.M. BUFFALO	406	990	85.0	.	.	.	.	.	.	.	.	.		
330.0	5SEP79	2-2	SLI	1-156	S.M. BUFFALO	460	1315	138.0	.	.	.	.	.	.	.	.	.		
330.0	5SEP79	2-3	SLI	1-156	S.M. BUFFALO	558	2300	140.0	.	.	.	.	.	.	.	.	.		
330.0	5SEP79	2-4	SLI	1-156	S.M. BUFFALO	549	2525	246.0	.	.	.	.	.	.	.	.	.		
330.0	5SEP79	2-5	SLI	1-156	S.M. BUFFALO	537	2095	254.0	.	.	.	.	.	.	.	.	.		
330.0	5SEP79	2-6	SLI	1-156	S.M. BUFFALO	409	1005	35.7	.	.	.	.	.	.	.	.	.		
330.0	5SEP79	COM	SLI	1-156	S.M. BUFFALO	.	.	.	0.71	0.11	0.15	0.04	0.12	0.07	0.37	0.9	0.9		
335.0	28AUG79	2-1	SLI	1-095	S.M. BUFFALO	422	1200	96.0	.	.	.	.	.	.	.	.	.		
335.0	28AUG79	2-2	SLI	1-095	S.M. BUFFALO	420	1191	84.0	.	.	.	.	.	.	.	.	.		
335.0	28AUG79	2-3	SLI	1-095	S.M. BUFFALO	396	794	80.0	.	.	.	.	.	.	.	.	.		
335.0	28AUG79	2-4	SLI	1-095	S.M. BUFFALO	373	963	67.0	.	.	.	.	.	.	.	.	.		
335.0	28AUG79	2-5	SLI	1-095	S.M. BUFFALO	454	1384	76.0	.	.	.	.	.	.	.	.	.		
335.0	28AUG79	2-6	SLI	1-095	S.M. BUFFALO	409	1000	120.0	.	.	.	.	.	.	.	.	.		
335.0	28AUG79	COM	SLI	1-095	S.M. BUFFALO	.	.	.	0.51	< 0.03	0.06	< 0.03	0.18	0.10	0.25	0.6	0.6	M.D.	
335.0	7SEP79	1-1	SLI	1-165	C. CATFISH	445	822	.	.	.	.	.	.	.	.	.	.		
335.0	7SEP79	1-2	SLI	1-165	C. CATFISH	347	335	.	.	.	.	.	.	.	.	.	.		
335.0	7SEP79	1-3	SLI	1-165	C. CATFISH	360	416	.	.	.	.	.	.	.	.	.	.		
335.0	7SEP79	1-4	SLI	1-165	C. CATFISH	398	621	.	.	.	.	.	.	.	.	.	.		
335.0	7SEP79	1-5	SLI	1-165	C. CATFISH	392	610	.	.	.	.	.	.	.	.	.	.		
335.0	7SEP79	1-6	SLI	1-165	C. CATFISH	329	275	.	.	.	.	.	.	.	.	.	.		
335.0	7SEP79	COM	SLI	1-165	C. CATFISH	.	.	.	0.70	0.03	< 0.03	0.03	0.16	0.03	0.09	0.3	0.4		
335.0	7SEP79	5-1	SLI	1-138A	L.M. BASS	343	760	92.0	0.43	0.09	0.49	3.02	5.20	0.86	2.20	11.9	11.9		
335.0	7SEP79	5-2	SLI	1-138B	L.M. BASS	370	650	71.0	0.40	0.03	0.06	0.90	2.20	0.33	1.32	4.8	4.8		
335.0	7SEP79	5-3	SLI	1-138C	L.M. BASS	326	490	71.0	0.23	0.13	0.35	1.38	2.54	0.41	1.34	6.1	6.1		

TASK 1 - DOT LEVELS IN IMPORTANT FISH SPECIES THROUGHOUT WILSON, WHEELER, AND GUNTERVILLE RESERVOIRS

FILE#	DATE	FID	LAB	SPECIES	LENGTH (MM)	T.MT (GM)	WT. (G4)	---CONCENTRATIONS OF DDT MEASURED IN FISH,UG/G---										---TOTAL DDTA---	
								LIPIDS (%)	--DDT (UG/G)--	O,P	P,P	O,P	O,P	P,P	O,P	P,P	MTN (UG/G)	MAX (UG/G)	
345.0	.	7-5		GIZZARD SHAD	245	168	.	.	.	.	.	.	.	.	.	.	.	.	
345.0	.	7-6		GIZZARD SHAD	211	82	.	.	.	.	.	.	.	.	.	.	.	.	
345.0	.	COM	SLI	GIZZARD SHAD	.	.	.	0.69	0.05	< 0.06	< 0.02	0.62	0.06	0.75	1.5	1.6			
345.0	7SEP79	4-1		WHITE CRAPPIE	203	109	34.5	.	.	.	.	.	.	.	.	.	.	.	
345.0	7SEP79	4-2		WHITE CRAPPIE	235	210	33.0	.	.	.	.	.	.	.	.	.	.	.	
345.0	7SEP79	4-3		WHITE CRAPPIE	198	120	30.5	.	.	.	.	.	.	.	.	.	.	.	
345.0	7SEP79	4-4		WHITE CRAPPIE	209	145	39.0	.	.	.	.	.	.	.	.	.	.	.	
345.0	7SEP79	4-5		WHITE CRAPPIE	210	136	34.0	.	.	.	.	.	.	.	.	.	.	.	
345.0	7SEP79	4-6		WHITE CRAPPIE	200	120	33.0	.	.	.	.	.	.	.	.	.	.	.	
345.0	7SEP79	COM	SLI	WHITE CRAPPIE	.	.	.	0.05	< 0.02	< 0.02	< 0.02	0.03	< 0.01	0.03	0.1	0.1			
345.0	7SEP79	5-1		L.M. BASS	358	875	135.0	.	.	.	.	.	.	.	.	.	.	.	
345.0	7SEP79	5-2		L.M. BASS	315	473	58.0	.	.	.	.	.	.	.	.	.	.	.	
345.0	7SEP79	5-3		L.M. BASS	262	225	61.0	.	.	.	.	.	.	.	.	.	.	.	
345.0	7SEP79	5-4		L.M. BASS	289	330	49.0	.	.	.	.	.	.	.	.	.	.	.	
345.0	7SEP79	5-5		L.M. BASS	291	258	34.0	.	.	.	.	.	.	.	.	.	.	.	
345.0	7SEP79	5-6		L.M. BASS	225	148	43.0	.	.	.	.	.	.	.	.	.	.	.	
345.0	7SEP79	COM	SLI	L.M. BASS	.	.	.	0.12	0.03	0.06	0.24	0.69	0.08	0.36	1.5	1.5	M.D.		
345.0	7SEP79	6-1		BLUEGILL	194	200	43.0	.	.	.	.	.	.	.	.	.	.	.	
345.0	7SEP79	6-2		BLUEGILL	195	165	41.0	.	.	.	.	.	.	.	.	.	.	.	
345.0	7SEP79	6-3		BLUEGILL	193	195	40.0	.	.	.	.	.	.	.	.	.	.	.	
345.0	7SEP79	6-4		BLUEGILL	160	110	30.0	.	.	.	.	.	.	.	.	.	.	.	
345.0	7SEP79	6-5		BLUEGILL	185	160	42.0	.	.	.	.	.	.	.	.	.	.	.	
345.0	7SEP79	6-6		BLUEGILL	198	160	32.5	.	.	.	.	.	.	.	.	.	.	.	
345.0	7SEP79	COM	SLI	BLUEGILL	.	.	.	0.17	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.01	0.0	0.1			
345.0	7SEP79	1-1	SLI	C. CATFISH	471	1145	110.0	4.84	0.11	0.04	0.08	0.25	0.10	0.19	0.8	0.8			
345.0	7SEP79	1-2	SLI	C. CATFISH	516	1125	100.0	2.23	0.08	0.03	0.07	0.38	0.10	0.27	0.9	0.9			
345.0	7SEP79	1-3	SLI	C. CATFISH	479	1210	120.0	4.98	< 0.02	0.03	0.11	0.58	0.11	0.37	1.2	1.2			
345.0	7SEP79	1-4	SLI	C. CATFISH	554	1725	175.0	3.02	0.10	0.23	0.08	0.22	0.12	0.24	1.0	1.0			
345.0	7SEP79	1-5	SLI	C. CATFISH	313	325	35.0	1.78	0.18	0.11	< 0.02	0.15	0.12	0.25	0.8	0.8			
345.0	7SEP79	1-6	SLI	C. CATFISH	532	1310	95.0	5.72	0.63	0.59	0.18	0.70	0.47	1.11	3.7	3.7			
345.0	7SEP79	COM	SLI	C. CATFISH	.	.	.	1.58	0.05	0.05	0.13	0.42	0.13	0.38	1.2	1.2			
345.0	7SEP79	2-1		S.M. BUFFALO	430	1225	150.0	.	.	.	.	.	.	.	.	.	.	.	
345.0	7SEP79	2-2		S.M. BUFFALO	412	1030	125.0	.	.	.	.	.	.	.	.	.	.	.	
345.0	7SEP79	2-3		S.M. BUFFALO	418	1150	110.0	.	.	.	.	.	.	.	.	.	.	.	
345.0	7SEP79	2-4		S.M. BUFFALO	414	1000	110.0	.	.	.	.	.	.	.	.	.	.	.	
345.0	7SEP79	2-5		S.M. BUFFALO	334	540	65.0	.	.	.	.	.	.	.	.	.	.	.	
345.0	7SEP79	2-6		S.M. BUFFALO	397	965	110.0	.	.	.	.	.	.	.	.	.	.	.	
345.0	7SEP79	COM	SLI	S.M. BUFFALO	.	.	.	1.20	0.03	0.03	0.03	0.09	0.07	0.27	0.5	0.5			
350.0	24SEP79	3-1		WHITE BASS	325	530	66.0	.	.	.	.	.	.	.	.	.	.	.	
350.0	24SEP79	3-2		WHITE BASS	290	330	43.0	.	.	.	.	.	.	.	.	.	.	.	
350.0	24SEP79	3-3		WHITE BASS	275	300	40.0	.	.	.	.	.	.	.	.	.	.	.	
350.0	24SEP79	3-4		WHITE BASS	315	380	43.0	.	.	.	.	.	.	.	.	.	.	.	
350.0	24SEP79	3-5		WHITE BASS	265	260	34.0	.	.	.	.	.	.	.	.	.	.	.	
350.0	24SEP79	3-6		WHITE BASS	290	320	43.0	.	.	.	.	.	.	.	.	.	.	.	
350.0	24SEP79	COM	SLI	WHITE BASS	.	.	.	0.77	0.02	0.03	< 0.01	0.05	0.02	0.11	0.2	0.2			
350.0	24SEP79	4-1		WHITE CRAPPIE	360	630	70.0	.	.	.	.	.	.	.	.	.	.	.	
350.0	24SEP79	4-2		WHITE CRAPPIE	265	210	30.0	.	.	.	.	.	.	.	.	.	.	.	
350.0	24SEP79	4-3		WHITE CRAPPIE	235	200	30.0	.	.	.	.	.	.	.	.	.	.	.	
350.0	24SEP79	4-4		WHITE CRAPPIE	200	120	27.5	.	.	.	.	.	.	.	.	.	.	.	
350.0	24SEP79	4-5		WHITE CRAPPIE	245	170	35.0	.	.	.	.	.	.	.	.	.	.	.	

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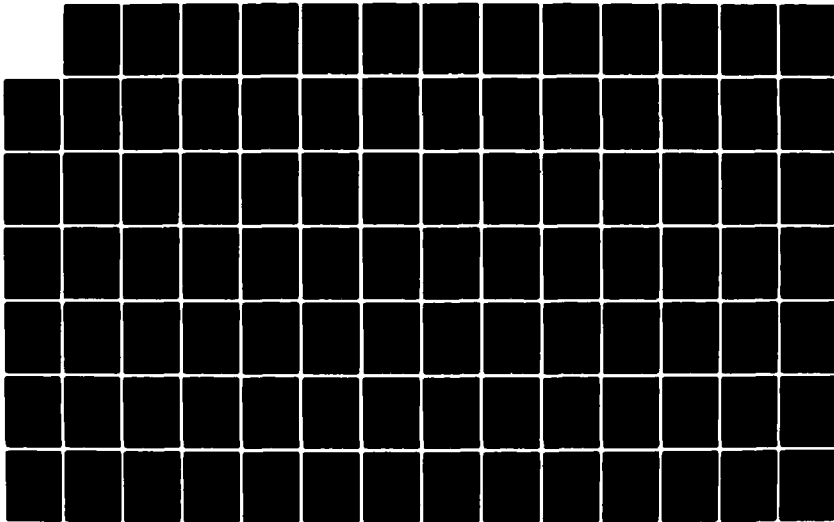
ENGINEERING AND ENVIRONMENTAL STUDY OF DDT
CONTAMINATION OF HUNTSVILLE SP. (U) WATER AND AIR
RESEARCH INC GAINESVILLE FL J H SULLIVAN ET AL. NOV 80
DACW01-79-C-0224

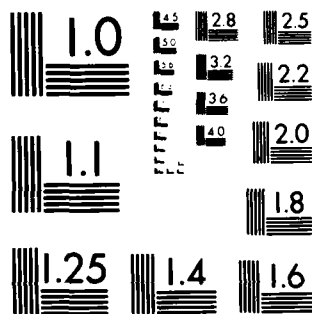
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MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

TASK 1 - DOI LEVELS IN IMPORTANT FISH SPECIES THROUGHOUT WILSON, WHEELER, AND GUNTERVILLE RESERVOIRS

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ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
 HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS — WHEELER RESERVOIR, ALABAMA
 TASK 1 - DDT LEVELS IN IMPORTANT FISH SPECIES THROUGHOUT WILSON, WHEELER, AND GUNTERSVILLE RESERVOIRS

MILE	DATE	FID	LAB	LABID	SPECIES	LENGTH (MM)	T.WT. (GM)	FILET WT. (GM)	--CONCENTRATIONS OF DDT MEASURED IN FISH,UG/G--										--TOTAL DDT--		REMARK		
									LIPIDS (%)					--DDT(UG/G)--					--ODE(UG/G)--			MIN (UG/G)	MAX (UG/G)
									O,P	O,P	P,P	O,P	P,P	O,P	O,P	P,P	P,P	O,P	P,P				
375.0	20CT79	COM	SLI	1-063	BLUEGILL	.	.	.	0.16	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	0.02	0.0	0.0	0.1					
400.0	28AUG79	1-1			C. CATFISH	495	1250	86.0	.	.	.	.	.	.	.	.	.	.	.	.			
400.0	28AUG79	1-2			C. CATFISH	405	650	72.0	.	.	.	.	.	.	.	.	.	.	.	.			
400.0	28AUG79	1-3			C. CATFISH	570	1970	154.0	.	.	.	.	.	.	.	.	.	.	.	.			
400.0	28AUG79	1-4			C. CATFISH	340	450	45.0	.	.	.	.	.	.	.	.	.	.	.	.			
400.0	28AUG79	1-5			C. CATFISH	350	410	70.0	.	.	.	.	.	.	.	.	.	.	.	.			
400.0	28AUG79	1-6			C. CATFISH	355	370	60.0	.	.	.	.	.	.	.	.	.	.	.	.			
400.0	20CT79	2-1			S.M. BUFFALO	465	1630	.	.	.	.	.	.	.	.	.	.	.	.	.			
400.0	20CT79	2-2			S.M. BUFFALO	460	1830	.	.	.	.	.	.	.	.	.	.	.	.	.			
400.0	20CT79	2-3			S.M. BUFFALO	455	1360	160.0	.	.	.	.	.	.	.	.	.	.	.	.			
400.0	20CT79	2-4			S.M. BUFFALO	485	1730	190.0	.	.	.	.	.	.	.	.	.	.	.	.			
400.0	20CT79	2-5			S.M. BUFFALO	490	1630	160.0	.	.	.	.	.	.	.	.	.	.	.	.			
400.0	20CT79	2-6			S.M. BUFFALO	440	1300	150.0	.	.	.	.	.	.	.	.	.	.	.	.			
400.0	20CT79	COM	SLI	1-064	S.M. BUFFALO	.	.	.	1.41	0.12	0.18	0.04	0.05	0.06	0.12	0.6	0.6	0.6	0.6				
400.0	20CT79	5-1			L.M. BASS	262	240	31.0	.	.	.	.	.	.	.	.	.	.	.	.			
400.0	20CT79	5-2			L.M. BASS	406	1140	175.0	.	.	.	.	.	.	.	.	.	.	.	.			
400.0	20CT79	5-3			L.M. BASS	339	490	79.0	.	.	.	.	.	.	.	.	.	.	.	.			
400.0	20CT79	5-4			L.M. BASS	363	700	130.0	.	.	.	.	.	.	.	.	.	.	.	.			
400.0	20CT79	5-5			L.M. BASS	362	665	110.0	.	.	.	.	.	.	.	.	.	.	.	.			
400.0	20CT79	5-6			L.M. BASS	253	245	40.0	.	.	.	.	.	.	.	.	.	.	.	.			
400.0	20CT79	COM	SLI	1-065	L.M. BASS	.	.	.	0.07	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.01	0.0	0.0	0.1	0.1				
400.0	20CT79	6-1			BLUEGILL	167	100	20.1	.	.	.	.	.	.	.	.	.	.	.	.			
400.0	20CT79	6-2			BLUEGILL	160	105	20.5	.	.	.	.	.	.	.	.	.	.	.	.			
400.0	20CT79	6-3			BLUEGILL	161	100	20.1	.	.	.	.	.	.	.	.	.	.	.	.			
400.0	20CT79	6-4			BLUEGILL	156	100	31.0	.	.	.	.	.	.	.	.	.	.	.	.			
400.0	20CT79	6-5			BLUEGILL	152	83	30.2	.	.	.	.	.	.	.	.	.	.	.	.			
400.0	20CT79	6-6			BLUEGILL	190	121	30.9	.	.	.	.	.	.	.	.	.	.	.	.			
400.0	20CT79	COM	SLI	1-066	BLUEGILL	.	.	.	0.34	< 0.02	< 0.02	< 0.02	< 0.02	0.01	0.03	0.0	0.0	0.1	0.1				
400.0	20CT79	7-1			GIZZARD SHAD	254	100	.	.	.	.	.	.	.	.	.	.	.	.	.			
400.0	20CT79	7-2			GIZZARD SHAD	255	170	.	.	.	.	.	.	.	.	.	.	.	.	.			
400.0	20CT79	7-3			GIZZARD SHAD	250	160	.	.	.	.	.	.	.	.	.	.	.	.	.			
400.0	20CT79	7-4			GIZZARD SHAD	244	155	.	.	.	.	.	.	.	.	.	.	.	.	.			
400.0	20CT79	7-5			GIZZARD SHAD	282	255	.	.	.	.	.	.	.	.	.	.	.	.	.			
400.0	20CT79	7-6			GIZZARD SHAD	256	200	.	.	.	.	.	.	.	.	.	.	.	.	.			
400.0	20CT79	COM	SLI	1-067	GIZZARD SHAD	.	.	.	2.80	< 0.03	< 0.03	< 0.03	< 0.02	< 0.02	0.07	0.1	0.1	0.2	M.D.	1			

FOOTNOTES:

A. ABSENCE OF DATA FOR INDIVIDUAL SAMPLES INDICATES ANALYSES WERE PERFORMED ON THE COMPOSITE OF THE INDIVIDUAL SAMPLES
 B. REMARKS-- AN ASTERISK (*) INDICATES THE SAMPLE WAS A PARTIAL FILLET PRESERVED WITH DRY ICE,
 THE ABBREVIATION (N.S.) INDICATES THAT NO SAMPLE WAS COLLECTED,
 THE ABBREVIATION (Q.D.) INDICATES QUESTIONABLE DDT DATA,
 THE ABBREVIATION (M.U.) INDICATES SAMPLE IS A MERGED VALUE (VALUE REPORTED IS THE AVERAGE OF TWO ANALYSES).

C. FID = FIELD IDENTIFICATION

D. SLI = STEWART LABORATORY INC., EPA = ENVIRONMENTAL PROTECTION AGENCY.

E. COM = COMPOSITE SAMPLE

F. MINIMUM TOTAL DDT CALCULATED BY SETTING ALL LESS THAN VALUES TO ZERO.

G. MAXIMUM TOTAL DDT CALCULATED BY SETTING ALL LESS THAN VALUES TO THEIR ABSOLUTE VALUE.

H. A NUMBER "1" INDICATES THESE SAMPLES WERE ORIGINALLY PREPARED BY SLI FOR ANALYSIS ON 12-12-79. INTERLAB COMPARISONS INDICATED THESE DATA WERE LOWER THAN EPA DATA. REFER TO QUALITY ASSURANCE DOCUMENT FOR DETAILS.

ENGINEERING AND ENVIRONMENTAL STUDY OF DOT CONTAMINATION
 HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS -- WHEELER RESERVOIR, ALABAMA
 TASK 1 (MODIFIED) - WHOLE BODY DOT LEVELS IN IMPORTANT FISH SPECIES THROUGHOUT WILSON, WHEELER, AND GUNTERVILLE RESERVOIRS

MILE	DATE	FID	LAB	LABID	SPECIES	LENGTH (MM)	T.WT (GM)	FILE WT. (GM)	CONCENTRATIONS OF DDT MEASURED IN FISH(MMOL/L)										REMARK					
									LIPOIDS (%)					--DDT(UG/G)--						--TOTAL DDT--				
									O,P	P,P	O,P	P,P	O,P	O,P	O,P	P,P	O,P	P,P		MIN (UG/G)	MAX (UG/G)			
-----INDIAN CREEK -----																								
2.0	.	.	6-1 SLI	1M-49	BLUEGILL	170	110	26.0	0.50	0.05	0.03	0.78	2.98	0.41	1.13	5.4	5.4	1						
2.0	.	.	6-2 SLI	1M-50	BLUEGILL	165	110	25.5	2.15	0.12	0.13	1.72	7.63	1.18	3.04	13.8	13.8	1						
2.0	.	.	6-3 SLI	1M-51	BLUEGILL	155	90	20.5	2.94	0.23	0.17	2.86	13.03	1.60	5.31	23.2	23.2	1						
2.0	.	.	6-4 SLI	1M-52	BLUEGILL	165	130	25.5	4.83	0.01	0.90	7.14	20.84	3.26	8.43	40.6	40.6	FFC						
2.0	.	.	6-5 SLI	1M-53	BLUEGILL	160	90	21.5	1.43	0.13	0.00	2.39	8.64	1.31	2.99	15.5	15.5	1						
2.0	.	.	1-1 SLI	1M-37	C. CATFISH	608	1270	364.0	5.93	7.63	9.12	60.01	214.6	28.96	98.22	418.5	418.5							
2.0	.	.	1-2 SLI	1M-38	C. CATFISH	585	1030	119.0	8.48	5.15	6.80	86.74	259.7	34.37	126.9	519.7	519.7							
2.0	.	.	1-3 SLI	1M-39	C. CATFISH	350	370	45.0	7.45	0.42	0.85	5.92	18.32	3.00	11.50	40.0	40.0							
2.0	.	.	1-4 SLI	1M-40	C. CATFISH	425	680	90.0	11.45	7.52	0.03	95.01	255.7	41.49	142.2	542.0	542.0							
2.0	.	.	1-5 SLI	1M-41	C. CATFISH	551	975	109.0	7.21	8.78	0.97	92.19	299.7	41.85	157.8	601.2	601.2							
2.0	.	.	1-6 SLI	1M-42	C. CATFISH	320	300	40.0	8.20	1.49	1.85	14.20	37.79	5.67	21.58	82.6	82.6							
2.0	.	.	5-1 SLI	1M-43	L.M. BASS	250	240	32.0	1.54	0.75	0.43	10.86	34.83	5.15	17.39	69.4	69.4	FFC						
2.0	.	.	5-2 SLI	1M-44	L.M. BASS	280	310	30.0	2.15	0.51	0.00	5.23	19.30	2.71	10.15	37.9	37.9	FFC						
2.0	.	.	5-3 SLI	1M-45	L.M. BASS	215	140	33.5	0.66	0.30	0.00	3.61	12.70	1.81	6.50	24.9	24.9	FFC						
2.0	.	.	5-4 SLI	1M-46	L.M. BASS	205	100	22.3	0.61	0.00	1.72	5.42	16.92	2.77	12.60	39.4	39.4	FFC						
2.0	.	.	5-5 SLI	1M-47	L.M. BASS	235	190	33.2	2.63	0.91	0.00	11.10	31.71	4.84	20.04	68.6	68.6	FFC						
2.0	.	.	5-6 SLI	1M-48	L.M. BASS	235	190	30.7	2.15	0.71	1.22	8.05	23.07	3.69	13.65	50.4	50.4	FFC						

-----TENNESSEE RIVER-----

315.0	28AUG79	6-1 SLI	1M-01 BLUEGILL	150	75	10.5	2.01	0.00	0.00	0.19	1.34	0.26	1.17	3.0	3.0	FFC	
315.0	28AUG79	6-2 SLI	1M-02 BLUEGILL	166	100	10.9	1.19	0.00	0.10	0.15	0.82	0.19	1.12	2.4	2.4	FFC	
315.0	28AUG79	6-3 SLI	1M-03 BLUEGILL	142	40	10.0	0.59	0.00	0.00	0.05	0.43	0.09	0.35	0.9	0.9	FFC	
315.0	28AUG79	6-4 SLI	1M-04 BLUEGILL	160	90	10.4	2.39	0.11	0.16	0.39	3.64	0.60	3.49	8.4	8.4	FFC	
315.0	28AUG79	6-5 SLI	1M-05 BLUEGILL	150	80	10.5	4.18	0.00	0.11	0.19	1.71	0.43	1.87	4.3	4.3	FFC	
315.0	28AUG79	1-1 SLI	1M-07 C. CATFISH	475	1150	96.0	5.05	0.47	0.81	3.17	8.73	1.85	7.84	22.9	22.9		
315.0	28AUG79	1-2 SLI	1M-08 C. CATFISH	470	860	110.0	3.01	0.03	3.02	5.46	35.48	5.05	27.76	76.8	76.8		
315.0	28AUG79	1-3 SLI	1M-09 C. CATFISH	295	220	30.5	6.95	0.59	0.40	1.85	7.49	1.69	7.16	19.2	19.2		
315.0	28AUG79	1-4 SLI	1M-10 C. CATFISH	430	820	81.0	9.86	1.37	1.53	12.01	48.77	7.13	31.64	102.5	102.5		
315.0	28AUG79	1-5 SLI	1M-11 C. CATFISH	310	260	30.6	4.45	0.42	0.38	1.38	3.94	0.93	3.63	10.7	10.7		
315.0	28AUG79	1-6 SLI	1M-12 C. CATFISH	485	720	81.0	6.42	0.46	0.42	0.67	2.24	0.87	2.56	7.2	7.2		
315.0	28AUG79	5-5 SLI	1M-17 L.M. BASS	390	865	86.0	3.73	7.72	11.81	35.28	79.37	10.56	39.60	184.4	184.4		
345.0	7SEP79	6-1 SLI	1M-31 BLUEGILL	194	200	43.0	3.98	0.14	0.13	0.24	0.82	0.22	0.55	2.1	2.1	FFC	
345.0	7SEP79	6-2 SLI	1M-32 BLUEGILL	195	165	41.0	3.17	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	FFC	
345.0	7SEP79	6-3 SLI	1M-33 BLUEGILL	193	195	40.0	5.05	0.13	0.21	0.08	0.31	0.41	1.49	2.6	2.6	FFC	
345.0	7SEP79	6-4 SLI	1M-34 BLUEGILL	160	110	30.0	2.10	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	FFC	
345.0	7SEP79	6-5 SLI	1M-35 BLUEGILL	185	160	42.0	5.33	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	FFC	
345.0	7SEP79	6-6 SLI	1M-36 BLUEGILL	198	160	32.5	0.97	0.00	0.00	0.00	0.10	0.06	0.09	0.2	0.2	FFC	
345.0	7SEP79	1-1 SLI	1M-19 C. CATFISH	471	1145	110.0	5.34	0.71	0.56	0.31	0.84	0.38	0.93	3.7	3.7		
345.0	7SEP79	1-2 SLI	1M-20 C. CATFISH	516	1125	100.0	5.29	0.26	0.37	0.28	2.31	0.50	1.78	5.5	5.5		
345.0	7SEP79	1-3 SLI	1M-21 C. CATFISH	479	1210	120.0	8.76	0.49	0.25	1.00	4.11	0.84	3.16	9.8	9.8		
345.0	7SEP79	1-4 SLI	1M-22 C. CATFISH	554	1725	175.0	6.33	0.46	0.42	0.28	0.88	0.64	1.02	3.7	3.7		
345.0	7SEP79	1-5 SLI	1M-23 C. CATFISH	313	325	35.0	3.62	0.21	0.29	0.19	0.48	0.42	1.03	2.6	2.6		
345.0	7SEP79	1-6 SLI	1M-24 C. CATFISH	532	1310	95.0	4.16	0.09	0.10	0.10	0.45	0.32	0.86	1.9	1.9		
345.0	7SEP79	5-1 SLI	1M-25 L.M. BASS	358	875	135.0	6.21	1.52	1.94	14.67	38.16	5.59	17.14	79.0	79.0	FFC	

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
 HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS — WHEELER RESERVOIR, ALABAMA
 TASK (MODIFIED) — WHOLE BODY DDT LEVELS IN IMPORTANT FISH SPECIES THROUGHOUT WILSON, WHEELER, AND GUNTERSVILLE RESERVOIRS

MILE	DATE	FID	LAB	LABID	SPECIES	LENGTH (MM)	T.WT (GM)	FILET WT. (GM)	LIPIDS (%)	CONCENTRATIONS OF DDT MEASURED IN FISH(WHOLE)										REMARK
										--DDT(UG/G)--		--DDE(UG/G)--		--DDD(UG/G)--		--TOTAL DDT--				
										O,P	P,P	O,P	P,P	O,P	P,P	MIN (UG/G)	MAX (UG/G)			
345.0	7SEP79	5-2	SLI	14-26	L.M. BASS	315	473	58.0	1.59	1.54	3.08	12.22	25.97	4.35	10.48	57.6	57.6	57.6	FFC 1	
345.0	7SEP79	5-3	SLI	14-27	L.M. BASS	262	225	61.0	0.30	0.07	0.08	0.09	0.28	0.06	0.27	0.8	0.8	0.8	FFC 1	
345.0	7SEP79	5-4	SLI	14-28	L.M. BASS	286	334	49.0	0.32	0.00	0.11	0.53	1.95	0.19	1.07	3.9	3.9	3.9	FFC 1	
345.0	7SEP79	5-5	SLI	14-29	L.M. BASS	291	258	34.0	0.77	0.25	0.42	0.74	3.55	0.44	2.96	8.4	8.4	8.4	FFC 1	
345.0	7SEP79	5-6	SLI	14-30	L.M. BASS	225	148	43.0	0.53	0.00	0.07	0.20	1.18	0.10	0.68	2.2	2.2	2.2	FFC 1	

FOOTNOTES:

- WHOLE BODY DDT AND LIPID VALUES WERE CALCULATED BY DETERMINING THE WEIGHTED AVERAGE OF THE INDIVIDUAL FILLET VALUES (PREVIOUSLY REPORTED) AND THE VALUES MEASURED IN THE REMAINDER OF EACH FISH SPECIMEN.
- REMARKS — FFC INDICATES THAT THE FILLET VALUE USED IN THE WHOLE BODY CALCULATIONS WAS FROM A COMPOSITE OF SEVERAL FISH. ALL LESS THAN DETECTABLE VALUES WERE SET TO ZERO FOR THE WHOLE BODY CALCULATIONS OF DDT. FOR THIS REASON ZEROS APPEAR IN THE DATA TABLES WHEN BOTH THE FILLET AND SAMPLE REMAINDER CONCENTRATIONS ARE LESS THAN DETECTABLE.
- A NUMBER "1" INDICATES THESE SAMPLES WERE ORIGINALLY PREPARED BY SLI FOR ANALYSIS ON 12-12-79. INTERLAB COMPARISONS INDICATED THESE DATA WERE SIGNIFICANTLY LOWER THAN EPA DATA. REFER TO QUALITY ASSURANCE DOCUMENT FOR DETAILS.

**ENGINEERING AND ENVIRONMENTAL STUDY
OF DDT CONTAMINATION OF HUNTSVILLE
SPRING BRANCH, INDIAN CREEK, AND
ADJACENT LANDS AND WATERS,
WHEELER RESERVOIR, ALABAMA**

TASK 2

**FISH POPULATION ESTIMATES AND DDTR
CONCENTRATIONS IN YOUNG-OF-THE-YEAR
FISH SPECIMENS OF INDIAN CREEK AND
HUNTSVILLE SPRING BRANCH EMBAYMENTS
OF WHEELER RESERVOIR**

**Tennessee Valley Authority
Office of Natural Resources**

August 1980

PREFACE

This document was prepared in support of the Engineering and Environmental Study of DDT contamination of Huntsville Spring Branch, Indian Creek, and Adjacent Lands and Waters, Wheeler Reservoir, Alabama, for the U.S. Corps of Engineers.

This document contains information produced in fulfillment of an interagency agreement between the U.S. Corps of Engineers and the Tennessee Valley Authority (TVA Contract No. TV-52305A).

Contents

Worktask Description.	Page 1
Sampling Location Maps.	Appendix A
Fish Population Estimate Data	Appendix B
Physical Data on Young-of-the-Year Fish Selected for DDTR Analysis	Appendix C
DDTR Analysis Data for Young-of-the-Year Fish Samples	Appendix D

TASK 2

WORKTASK DESCRIPTION

TASK 2

FISH POPULATION ESTIMATES AND DDTR CONCENTRATIONS IN YOUNG-OF-THE-YEAR FISH SPECIMENS OF INDIAN CREEK AND HUNTSVILLE SPRING BRANCH EMBAYMENTS OF WHEELER RESERVOIR

1.0 Purpose

The purpose of this task was to: (a) determine the standing crop of fish species inhabiting coves in Indian Creek and Huntsville Spring Branch embayments, (b) determine the reproductive success of fish species in these areas, (c) develop a species list for Indian Creek and Huntsville Spring Branch embayments, and (d) collect young-of-the-year fish specimens from coves in Indian Creek and Huntsville Spring Branch embayments and other coves in Wheeler Reservoir for DDTR* analysis.

2.0 Scope

Coves were sampled in Indian Creek, Huntsville Spring Branch and Wheeler Reservoir.

3.0 Procedure

3.1 Fish Population Estimates

3.1.1 Sampling Locations

Fish samples for population estimates were collected from the five areas shown on the navigation charts in Appendix A. Area 1, is a cove on Indian Creek. Area 2, is a cove on Huntsville Spring Branch. Areas 3, 4, and 5 are coves respectively located on Second Creek ($\cong$ TRM 275), Elk River ($\cong$ TRM 284), and at Lawrence County Park - Wheeler Reservoir ($\cong$ TRM 286).

*DDTR - DDT isomers and metabolites.

3.1.2 Type of Sample

Cove Rotenone.

3.1.3 Field Collection and Sample Handling

3.1.3.1 The coves referenced in 3.1.1 were surveyed to determine their size in acres (see Appendix B).

3.1.3.2 Samples were collected before the water temperature dropped below 70°F.

3.1.3.3 Coves were closed with a block net at 5:00 p.m. one day and rotenone applied at a one mg/l concentration the following morning.

3.1.3.4 Fish were picked up two consecutive days and sorted into species by size classes. Each size class was counted and weighed.

Weights were taken on first-day fish only with weights of second-day fish estimated from those of the first day except for sizes not collected the first day.

3.1.4 Data Analysis

Fish population estimate data are summarized in tables in Appendix B, in terms of weights and numbers per acre for all sizes and groups of fish.

3.2 DDTR Analysis of Young-of-Year

3.2.1 Sampling Locations

Young-of-year gizzard shad, largemouth bass, and bluegill were collected from coves in Elk River (Area 4), and Lawrence County Park-Wheeler Reservoir (Area 5), for DDTR analysis. Young-of-year gizzard shad and bluegill were collected from coves in Indian Creek (Area 1), and Huntsville Spring Branch (Area 2) for DDTR analysis. No largemouth bass were found in Indian Creek and Huntsville Spring Branch.

3.2.2 Type of Sample

Cove rotenone.

3.2.3 Sample Handling

Each of the species from each cove sampled under 3.2.1 were divided (if possible) into three separate aliquotes. The same approximate size range of fish were in each aliquote. The length and weight of each fish comprising each aliquot is presented in Appendix C. After collection each individual fish was wrapped in aluminum foil, properly labeled, and placed in polyethylene ziplock bags. Bags were placed on ice in the field and later transferred to a chest freezer in the laboratory.

3.2.4 DDTR Analysis

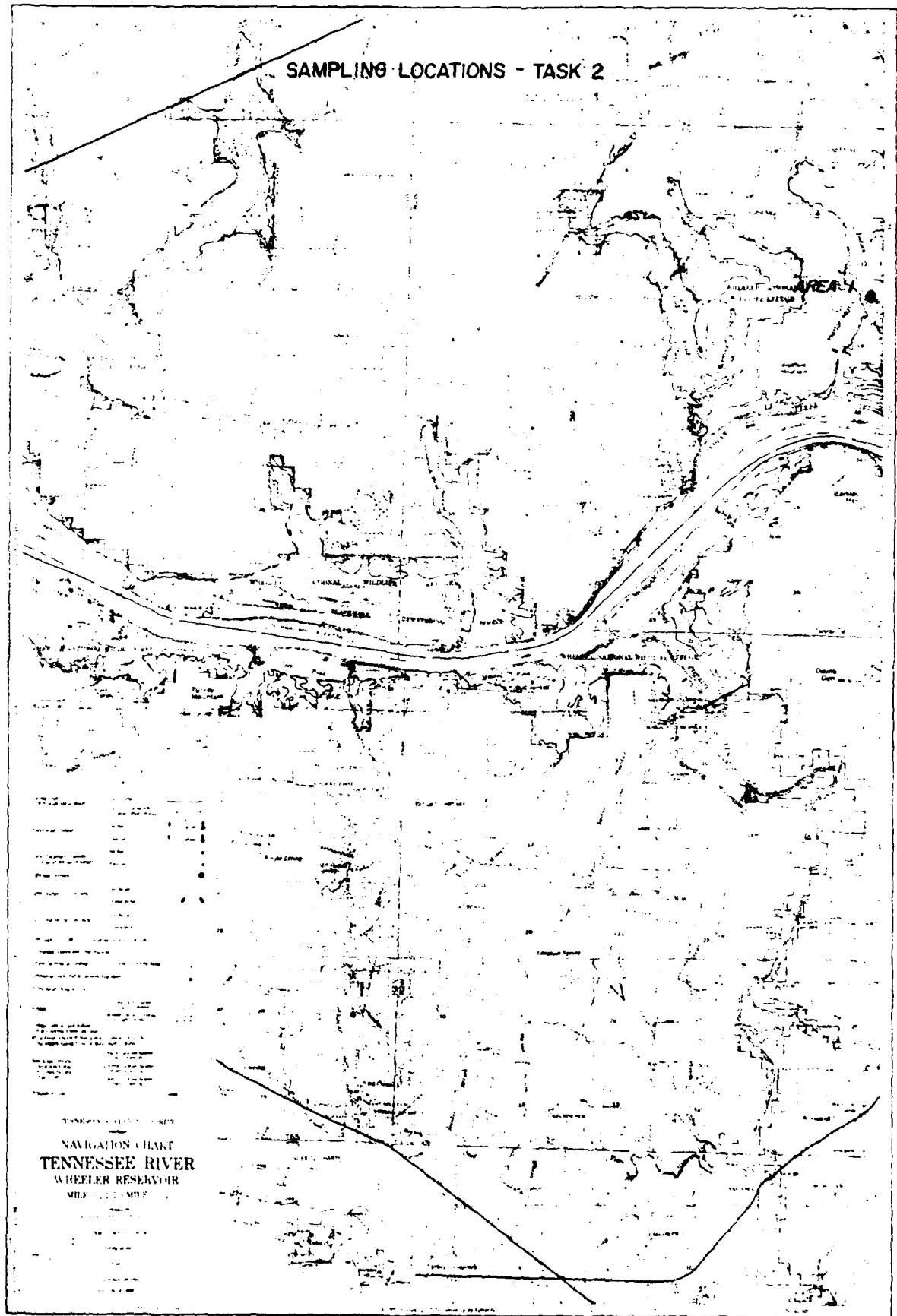
Each aliquot prepared under Section 3.2.3 was analyzed for DDTR according to procedures outlined in the Quality Assurance document. The analytical results of the DDTR analysis are presented in Appendix D.

APPENDIX A

Task 2

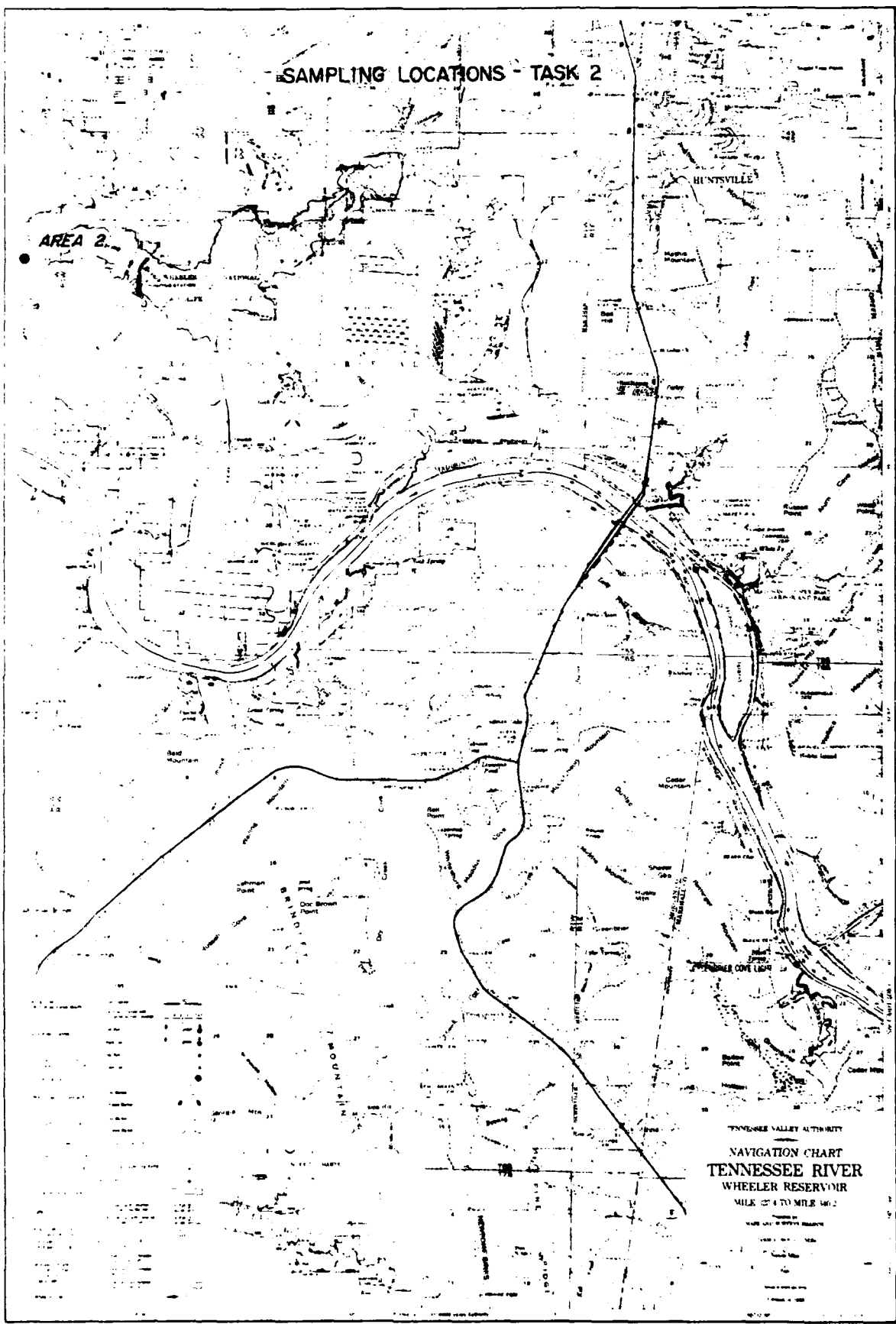
Sampling Location Maps

SAMPLING LOCATIONS - TASK 2



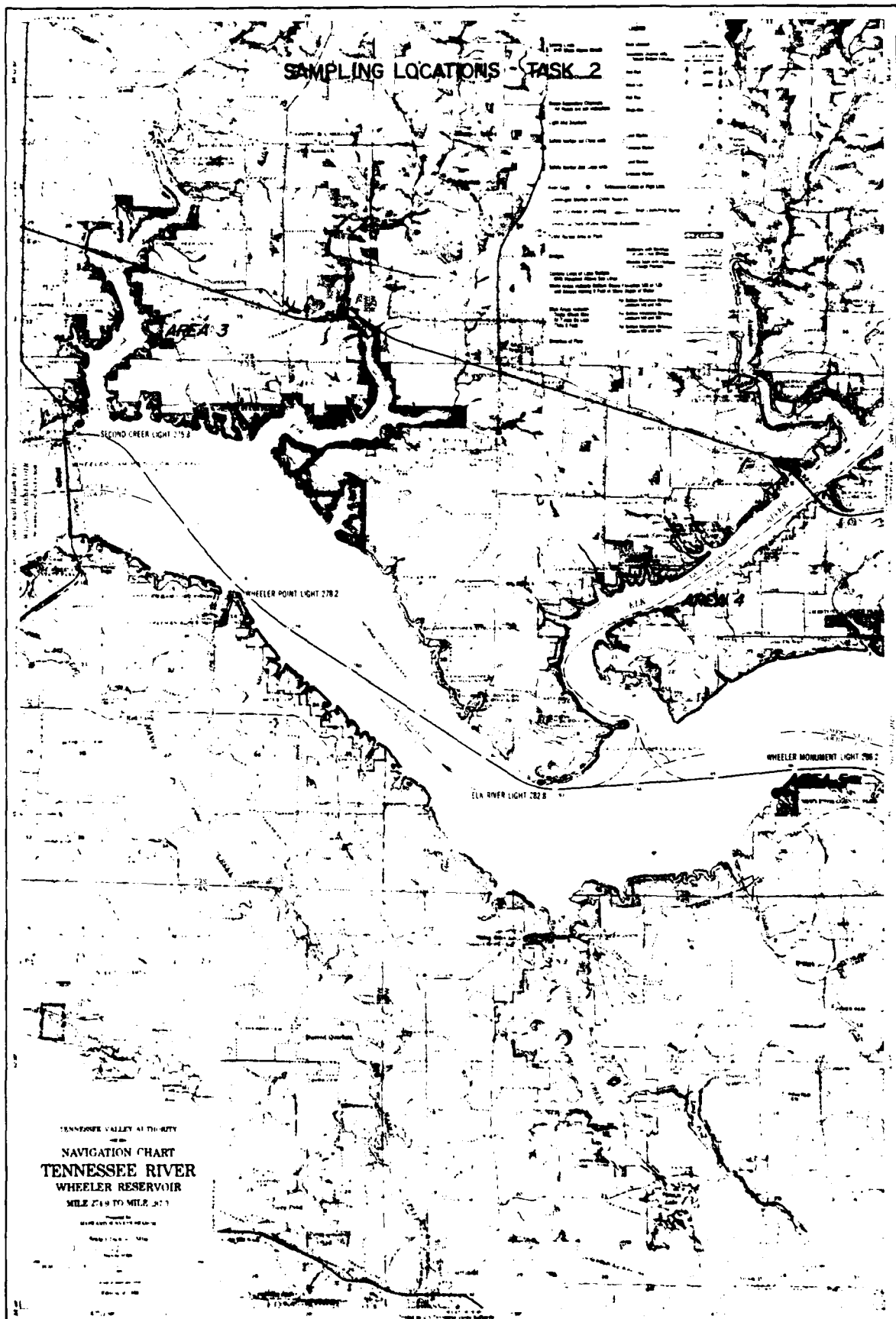
NAVIGATION CHART
TENNESSEE RIVER
WHEELER RESERVOIR
MILEAGE

SAMPLING LOCATIONS - TASK 2



TENNESSEE VALLEY AUTHORITY
NAVIGATION CHART
TENNESSEE RIVER
WHEELER RESERVOIR
MILE 124 TO MILE 140.2

SAMPLING LOCATIONS - TASK 2



APPENDIX B

Task 2

Fish Population Estimate Data

C

TABLE 1. SAMPLE AREA LOCATIONS, WHEELER
RESERVOIR, 1979

SAMPLE AREA	DATE	RIVER MILE	UNIVERSAL GRID CODE
AREA 1	SEPTEMBER 18	320.9	348656013054
AREA 2	SEPTEMBER 11	320.9	348656007058

TABLE 2. STANDING CROP OF FISH BY SAMPLE AREA, WHEELER
RESERVOIR, 1979

SAMPLE AREA	*****SIZE*****		MEAN DEPTH		NUMBER OF FISH		WEIGHT OF FISH	
	HECTARES	ACRES	METERS	FEET	PER HECTARE	PER ACRE	KG/HA	LB/AC
AREA 1	0.1	0.4	0.3	1.0	11400.0	4613.5	131.2	117.0
AREA 2	0.3	0.6	0.2	0.7	26704.0	10806.6	209.1	186.6
ALL AREAS	0.4	1.0	0.2	0.8	19052.0	7710.2	170.2	151.8

TABLE 3. COMMON AND SCIENTIFIC NAMES OF FISH IN ROTENONE SAMPLES, WHEELER RESERVOIR, 1979

COMMON NAME	SCIENTIFIC NAME
GAME	
WARMOUTH	LEPOMIS GILLOSUS
GREEN SUNFISH	LEPOMIS CYANELLUS
BLUEGILL	LEPOMIS MACROCHIRUS
LONGEAR SUNFISH	LEPOMIS NEGALOTIS
REDFAR SUNFISH	LEPOMIS MICROLOPHUS
ROUGH	
BOWFIN	AMIA CALVA
GOLDFISH	CARASSIUS AURATUS
CARP	CYPRINUS CARPIO
SMALLMOUTH BUFFALO	ICTIOBUS BUBALUS
SPOTTED SUCKER	NOTEMIGONYS MELANOPS
BLACK BULLHEAD	ICTALURUS MELAS
CHANNEL CATFISH	ICTALURUS PUNCTATUS
FORAGE	
GIZZARD SHAD	Dorosoma cepedianum
THREADFIN SHAD	Dorosoma petenense
STONEWALLER	Campostoma anomalum
GOLDEN SHINER	Notemigonus crysoleucas
EMERALD SHINER	Notropis atherinoides
COMMON SHINER	Notropis cornutus
BLACKSPOTTED TOPMINNOW	Fundulus olivaceus
MOSQUITOFISH	Gambusia affinis
BROWN SILVERSIDE	Labidesthes sicculus
MIXED & UNID MINNOWS	

TABLE 4. SIZE CLASSES (MILLIMETERS) USED IN FISH INVENTORIES

SPECIES	YOUNG OF YEAR	INTER- MEDIATE	HARVEST- ABLE
GAME			
WHITE BASS	1-150	151-200	201 AND OVER
YELLOW BASS	1-150	151-200	201 AND OVER
STRIPED BASS	1-175	176-375	376 AND OVER
ROCK BASS	1-75	76-125	126 AND OVER
BLUEGILL	1-75	76-125	126 AND OVER
OTHER SUNFISH	1-75	76-125	126 AND OVER
SMALLMOUTH BASS	1-100	101-200	201 AND OVER
SPOTTED BASS	1-100	101-200	201 AND OVER
LARGEMOUTH BASS	1-100	101-225	226 AND OVER
CRAPPIE	1-75	76-175	176 AND OVER
SAUGER	1-200	201-275	276 AND OVER
WALLEYE	1-200	201-275	276 AND OVER
ROUGH			
LAMPREY	1-50	51-125	126 AND OVER
PADDLEFISH	1-300	301-450	451 AND OVER
GAR	1-300	301-475	476 AND OVER
BOMFIN	1-200	201-300	301 AND OVER
SKIPJACK HERRING	1-150	151-275	276 AND OVER
MOONEYE	1-150	151-300	301 AND OVER
CARP	1-200	201-300	301 AND OVER
GOLDFISH	1-150	151-250	251 AND OVER
BUFFALO	1-200	201-300	301 AND OVER
CARP JACKERS	1-175	176-250	251 AND OVER
REDHORSES	1-175	176-250	251 AND OVER
OTHER JACKERS	1-175	176-250	251 AND OVER
BLUE CATFISH	1-125	126-225	226 AND OVER
CHANNEL CATFISH	1-125	126-225	226 AND OVER
BULLHEADS	1-100	101-175	176 AND OVER
FLATHEAD CATFISH	1-125	126-275	276 AND OVER
FRESHWATER DRUM	1-125	126-200	201 AND OVER
GRASS PICKFREL	1-175	176-300	301 AND OVER
FORAGE			
GIZZARD SHAD	1-125	-	126 AND OVER
THREADFIN SHAD	1-125	-	126 AND OVER
ORANGESPOTTED SUNFISH	1-50	51-75	76 AND OVER
MISC. FORAGE FISH	ALL SIZES	-	-

TABLE 5. AREA POPULATIONS FOR MAJOR FISH GROUPS, WHEELER
RESERVOIR, 1979

SAMPLE AREA	FISH GROUP	NUMBER OF SPECIES	NUMBER OF HECTARE	FISH ACRE	WEIGHT OF FISH KG/HA	LBS/AC
AREA 1	GAME	5	2406.7	974.0	12.2	10.9
	ROUGH	4	233.3	94.4	28.8	25.7
	FORAGE	7	8760.0	3545.1	90.1	80.4
		16	11400.0	4613.5	131.2	117.0
AREA 2	GAME	4	692.0	280.0	2.7	2.4
	ROUGH	7	404.0	163.5	23.4	20.9
	FORAGE	5	25608.0	10363.3	183.0	163.2
		16	26704.0	10806.8	209.1	186.6
ALL AREAS	GAME	5	1549.3	627.0	7.5	6.7
	ROUGH	7	318.7	129.0	26.1	23.3
	FORAGE	9	17184.0	6954.2	136.5	121.8
		21	19052.0	7710.2	170.2	151.8

TABLE 6. SIZE DISTRIBUTION PER HECTARE, WHEELER
RESERVOIR, 1979

SPECIES	--YOUNG OF YEAR--		--INTERMEDIATE--		--HARVESTABLE--		--TOTAL--	
	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT
GIZZARD SHAD	15281.33	32.16	-	-	1072.00	51.65	16353.33	133.81
BLUEGILL	422.00	2.76	43.33	0.46	-	-	865.33	3.23
GREEN SUNFISH	366.67	1.44	101.33	1.26	6.67	0.29	474.67	2.99
GOLDEN SHINER	322.00	0.92	-	-	-	-	322.00	0.92
MIXED & JND MINNOWS	237.33	1.37	-	-	-	-	237.33	1.37
GOLDFISH	45.33	0.80	57.33	9.13	26.67	0.52	129.33	10.45
THREADFIN SHAD	103.33	0.21	-	-	-	-	103.33	0.21
REDEAR SUNFISH	90.00	0.24	6.67	0.07	6.67	0.51	103.33	0.82
LONGEAR SUNFISH	102.67	0.46	-	-	-	-	102.67	0.46
COMMON SHINER	97.33	0.12	-	-	-	-	97.33	0.12
BLACK BULLHEAD	93.33	0.19	-	-	-	-	93.33	0.19
SPOTTED SUCKER	53.33	0.36	-	-	-	-	53.33	0.36
EMERALD SHINER	26.67	0.08	-	-	-	-	26.67	0.08
CARP	16.00	0.84	2.00	0.24	6.00	2.99	24.00	4.07
MOSQUITOFISH	22.00	0.01	-	-	-	-	22.00	0.01
BLACKSPOTTED TOPMINNOW	13.33	0.01	-	-	-	-	13.33	0.01
BOWFIN	-	-	10.67	1.97	-	-	10.67	1.97
BROOK SILVERSIDE	6.67	0.01	-	-	-	-	6.67	0.01
SMALLMOUTH BUFFALO	2.00	0.10	-	-	2.00	0.91	4.00	1.01
CHANNEL CATFISH	-	-	4.00	0.07	-	-	4.00	0.07
WARMOUTH	3.33	T	-	-	-	-	3.33	T
STOVERGILLER	2.00	T	-	-	-	-	2.00	T

T = LESS THAN 0.01 PER HECTARE

TABLE 7. SPECIES COMPOSITION OF LOVE POPULATIONS, WHEELER
RESERVOIR 1979

SPECIES	PERCENT OF TOTAL NUMBERS	PERCENT OF TOTAL WEIGHT
GIZZARD SHAD	85.84	78.64
BLUEGILL	4.54	1.90
GREEN SUNFISH	2.49	1.76
GOLDEN SHINER	1.69	3.54
MIXED E UNID MINNOWS	1.25	3.80
GULDFISH	0.68	10.84
THREADFIN SHAD	0.54	0.12
REDEAR SUNFISH	0.54	3.48
LUNGEAR SUNFISH	0.54	3.27
COMMON SHINER	0.51	0.07
BLACK BULLHEAD	0.49	0.11
SPOTTED SUCKER	0.28	3.21
EMERALD SHINER	0.14	3.05
CARP	0.13	2.39
MOSQUITOFISH	0.12	T
BLACKSPOTTED TOPMINNOW	0.07	T
BOWFIN	0.06	1.16
BROOK SILVERSIDF	0.03	T
SMALLMOUTH BUFFALO	0.02	0.59
CHANNEL CATFISH	0.02	3.04
WARMOJTH	0.02	T
STONEROLLER	0.01	T
	100.00	100.00

T = LESS THAN 0.01 PERCENT

TABLE 8. SIZE DISTRIBUTION OF MAJOR FISH GROUPS, WHEELER
RESERVOIR, 1979

*****PERCENT BY NUMBER*****					*****PERCENT BY WEIGHT*****				
FISH GROUP	YOUNG OF YEAR	INTER- MEDIATE	HARVEST- ABLE	TOTAL	YOUNG OF YEAR	INTER- MEDIATE	HARVEST- ABLE	TOTAL	
GAME	7.3	0.8	0.1	8.1	2.9	1.1	0.5	4.4	
ROUGH	1.1	0.4	0.2	1.7	1.3	6.7	7.3	15.4	
FORAGE	84.6	0.0	5.6	90.2	49.9	0.0	30.4	80.2	
TOTAL	92.9	1.2	5.9	100.0	54.1	7.8	38.1	100.0	

TABLE 9. SAMPLE AREA LOCATIONS, WHEELER
RESERVOIR, 1979

SAMPLE AREA	DATE	RIVER MILE		UNIVERSAL GRID CODE
AREA III	AUGUST	23	275.2	348773044012
AREA IV	AUGUST	28	2.7	348773088111
AREA V	AUGUST	30	285.8	348772119014

TABLE 10. STANDING CROP OF FISH BY SAMPLE AREA, WHEELER
RESERVOIR, 1979

SAMPLE AREA	****SIZE****		MEAN DEPTH		NUMBER OF FISH		WEIGHT OF FISH	
	HECTARES	ACRES	METERS	FEET	PER HECTARE	PER ACRE	KG/HA	LB/AC
AREA III	1.0	2.5	2.2	7.2	23319.0	9437.0	513.0	457.7
AREA IV	0.8	1.5	1.4	4.6	23448.3	9489.3	596.7	532.4
AREA V	1.4	3.5	1.3	4.3	16780.0	6790.7	538.6	480.5
ALL AREAS	3.0	7.4	1.6	5.4	21182.4	8572.3	549.4	490.2

TABLE 11. COMMON AND SCIENTIFIC NAMES OF FISH IN ROTENONE SAMPLES, WHEELER RESERVOIR, 1979

COMMON NAME	SCIENTIFIC NAME
GAME	
WHITE BASS	MORONE CHRYSOPS
YELLOW BASS	MORONE MISSISSIPPIENSIS
WARMOUTH	LEPOMIS GULIUS
GREEN SUNFISH	LEPOMIS CYANELLUS
BLUEGILL	LEPOMIS MACROCHIRUS
LINGEAR SUNFISH	LEPOMIS MEGALOTIS
WEDEAR SUNFISH	LEPOMIS MICRULOPHUS
SMALLMOUTH BASS	MICROPTERUS DOLOMIEUI
SPOTTED BASS	MICROPTERUS PUNCTULATUS
LARGEMOUTH BASS	MICROPTERUS SALMOIDES
WHITE CRAPPIE	POMOXIS ANNULARIS
BLACK CRAPPIE	POMOXIS NIGROMACULATUS
YELLOW PERCH	PERCA FLAVESCENS
SAUGER	STIZOSTEDION CANADENSE
ROUGH	
SPOTTED GAR	LEPISOSTEUS Oculatus
LONGNOSE GAR	LEPISOSTEUS OSSEUS
SKIPJACK HERRING	ALOSA CHRYSOCHLORIS
CARP	CYPRINUS CARPIO
SMALLMOUTH BUFFALO	ICTIOBUS NUBALIS
BIGMOUTH BUFFALO	ICTIOBUS CYPRINELLUS
SPOTTED SUCKER	MINYTREMA MELANOPS
SILVER REDHORSE	MOXIUSTOMA ANISURUM
GOLDEN REDHORSE	MOXIUSTOMA ERYTHRURUM
CHANNEL CATFISH	ICTALURUS PUNCTATUS
FLATHEAD CATFISH	PYLUDICTIS OLIVARIS
FRESHWATER DRUM	APLODINDOTUS GRUNNIENS
FORAGE	
GIZZARD SHAD	DORUSOMA CEPEDIANUM
THREADFIN SHAD	DORUSOMA PETENENSE
STONEWALLER	CAMPSTOMA ANOMALUM
SILVER CHUB	HYBOPSTIS STORERIANA
GOLDEN SHINER	NOTEMIGONUS CRYSOLEUCAS
EMERALD SHINER	NOTROPIS ATHERINOIDES
BULLHEAD MINNOW	PIMEPHALES VIGILAX
TADPOLE MADTOM	NOTURUS GYRINUS
BLACKSPOTTED TOPMINNOW	FUNDULUS OLIVACEUS
MOSQUITOFISH	GAMBUSIA AFFINIS
ORANGESPOTTED SUNFISH	LEPOMIS HUMILIS
FANTAIL DARTER	ETHEOSTOMA FLABELLARE
STRIPETAIL DARTER	ETHEOSTOMA KENNICOTTI

TABLE 11. COMMON AND SCIENTIFIC NAMES OF FISH IN ROTENONE SAMPLES, WHEELER
(Cont.) RESERVOIR, 1979

COMMON NAME	SCIENTIFIC NAME
LOGPERCH	PERCINA CAPRODES
RIVER DARTER	PERCINA SHUMARDI
BROOK SILVERSIDE	LABIDESTHES SICCOLUS

TABLE 12. SIZE CLASSES (MILLIMETERS) USED IN FISH INVENTORIES

SPECIES	YOUNG OF YEAR	INTER- MEDIATE	HARVEST- ABLE
GAME			
WHITE BASS	1-150	151-200	201 AND OVER
YELLOW BASS	1-150	151-200	201 AND OVER
STRIPED BASS	1-175	176-375	376 AND OVER
MUCK BASS	1-75	76-125	126 AND OVER
BLUEGILL	1-75	76-125	126 AND OVER
OTHER SUNFISH	1-75	76-125	126 AND OVER
SMALLMOUTH BASS	1-100	101-200	201 AND OVER
SPOTTED BASS	1-100	101-200	201 AND OVER
LARGEMOUTH BASS	1-100	101-225	226 AND OVER
CHAPPIE	1-75	76-175	176 AND OVER
SAUGER	1-200	201-275	276 AND OVER
WALLEYE	1-200	201-275	276 AND OVER
ROUGH			
LAMPREY	1-50	51-125	126 AND OVER
PADDLEFISH	1-300	301-450	451 AND OVER
GAR	1-300	301-475	476 AND OVER
BOWFIN	1-200	201-300	301 AND OVER
SKIPJACK HERRING	1-150	151-275	276 AND OVER
MOONEYE	1-150	151-300	301 AND OVER
CARP	1-200	201-300	301 AND OVER
GOLDFISH	1-150	151-250	251 AND OVER
BUFFALO	1-200	201-300	301 AND OVER
CARPSUCKERS	1-175	176-250	251 AND OVER
REDHORSES	1-175	176-250	251 AND OVER
OTHER SUCKERS	1-175	176-250	251 AND OVER
BLUE CATFISH	1-125	126-225	226 AND OVER
CHANNEL CATFISH	1-125	126-225	226 AND OVER
BULLHEADS	1-100	101-175	176 AND OVER
FLATHEAD CATFISH	1-125	126-275	276 AND OVER
FRESHWATER DRUM	1-125	126-200	201 AND OVER
GRASS PICKEREL	1-175	176-300	301 AND OVER
FORAGE			
GIZZARD SHAD	1-125	-	126 AND OVER
THREADFIN SHAD	1-125	-	126 AND OVER
ORANGESPOTTED SUNFISH	1-50	51-75	76 AND OVER
MISC. FORAGE FISH	ALL SIZES	-	-

TABLE 13. AREA POPULATIONS FOR MAJOR FISH GROUPS , WHEELER
RESERVOIR, 1979

SAMPLE AREA	FISH GROUP	NUMBER OF SPECIES	NUMBER OF HECTARE	FISH ACRE	WEIGHT OF FISH KG/HA	LBS/AC
AREA III	GAME	13	9045.0	3680.4	117.7	105.0
	ROUGH	10	400.0	161.9	155.9	139.1
	FORAGE	12	13874.0	5614.7	239.4	213.6
		35	23319.0	9437.0	513.0	457.7
AREA IV	GAME	10	13498.3	5462.6	236.8	211.3
	ROUGH	8	445.0	180.1	169.0	150.8
	FORAGE	10	9505.0	3846.6	190.9	170.4
		28	23448.3	9489.3	596.7	532.4
AREA V	GAME	12	2857.9	1156.5	57.7	51.5
	ROUGH	11	435.0	176.0	184.6	164.7
	FORAGE	14	13487.1	5458.1	296.3	264.3
		37	16780.0	6790.7	538.6	480.5
ALL AREAS	GAME	14	8467.1	3426.5	137.4	122.6
	ROUGH	12	426.7	172.7	169.8	151.5
	FORAGE	16	12288.7	4973.1	242.2	216.1
		42	21182.4	8572.3	549.4	490.2

TABLE 14. SIZE DISTRIBUTION PER HECTARE, WHEELER
RESERVOIR, 1979

SPECIES	--YOUNG OF YEAR--		--INTERMEDIATE--		--HARVESTABLE--		--TOTAL--	
	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT
GIZZARD SHAD	315.11	2.71	-	-	7357.03	217.09	7672.14	19.79
BLUEGILL	2392.83	7.84	1807.51	31.40	484.60	30.67	4684.94	69.91
THREADFIN SHAD	4329.97	20.63	-	-	-	-	4329.97	20.63
LUMBER SUNFISH	1193.94	4.02	1206.76	21.64	56.00	2.64	2456.70	28.30
REDEAR SUNFISH	214.41	1.01	80.00	1.35	82.33	11.25	376.75	13.61
GREEN SUNFISH	174.84	0.55	89.84	1.53	16.22	0.88	280.90	2.95
WARWATER	183.59	0.66	73.16	1.22	17.02	1.30	273.76	3.18
FRESHWATER DRUM	60.95	0.61	76.08	3.34	66.27	23.30	203.30	27.25
LARGemouth BASS	74.65	0.50	82.10	2.33	21.37	10.39	178.11	13.22
LOGPERCH	132.27	1.01	-	-	-	-	132.27	1.01
SPOTTED SUCKER	-	-	3.16	0.39	84.49	34.36	87.65	34.76
YELLOW BASS	66.33	0.24	0.33	0.02	-	-	66.67	0.26
BULLHEAD MINNOW	64.22	0.13	-	-	-	-	64.22	0.13
SPOTTED BASS	40.22	0.24	13.22	0.24	2.46	0.47	55.90	0.95
SMALLMOUTH BASS	24.57	0.17	15.24	0.37	4.90	0.84	44.71	1.38
SMALLMOUTH BUFFALO	-	-	1.76	0.67	42.62	57.30	44.38	57.96
GOLDEN REDHORSE	-	-	0.79	0.12	38.70	20.31	39.49	20.43
BLACKSPOTTED TOPMINNOW	25.84	0.06	-	-	-	-	25.84	0.06
ORANGESPOTTED SUNFISH	0.24	T	22.71	0.09	1.35	0.01	24.30	0.10
WHITE CRAPPIE	-	-	8.70	0.44	15.51	2.26	24.21	2.70
WHITE BASS	14.62	0.26	2.24	0.12	-	-	16.86	0.37
FLATHEAD CATFISH	3.33	0.02	6.86	0.52	5.49	3.34	15.68	3.89
GOLDEN SHINER	13.05	0.42	-	-	-	-	13.05	0.42
EMERALD SHINER	11.05	0.02	-	-	-	-	11.05	0.02
SPOTTED GAR	2.25	0.15	0.67	0.18	5.68	4.69	8.60	5.02
CHANNEL CATFISH	1.00	0.01	-	-	7.56	4.49	8.56	4.51
SILVER REDHORSE	-	-	-	-	7.86	5.45	7.86	5.45
BROCK SILVERSIDE	7.32	0.01	-	-	-	-	7.32	0.01
SAUGER	3.43	0.08	1.90	0.20	1.00	0.20	6.33	0.48
SKIPJACK HERRING	0.71	0.01	5.29	0.26	0.24	0.04	6.24	0.32
SILVER CHUB	2.81	0.02	-	-	-	-	2.81	0.02
BIGMOUTH BUFFALO	-	-	-	-	2.71	5.06	2.71	5.06
STRIPETAIL DARTER	2.56	T	-	-	-	-	2.56	T
MOSQUITOFISH	1.67	T	-	-	-	-	1.67	T
CARP	-	-	-	-	-	-	-	-
LONGNOSE GAR	-	-	-	-	1.19	4.10	1.19	4.10
FANTAIL DARTER	0.71	T	0.67	0.10	0.33	0.99	1.00	1.09
BLACK CRAPPIE	-	-	-	-	-	-	0.71	T
YELLOW PERCH	-	-	0.56	T	0.67	0.11	0.67	0.11
TADPOLE MUDTOM	0.33	T	-	-	-	-	0.56	T
STONEROLLER	0.24	T	-	-	-	-	0.33	T
RIVER DARTER	0.24	T	-	-	-	-	0.24	T

T = LESS THAN 0.01 PER HECTARE

TABLE 15. SPECIES COMPOSITION OF LIVE POPULATIONS, WHEELER
RESERVOIR 1979

SPECIES	PERCENT OF TOTAL NUMBERS	PERCENT OF TOTAL WEIGHT
GIZZARD SHAD	36.22	40.00
BLUEGILL	22.12	12.72
THREADFIN SHAD	20.44	3.75
LONGEAR SUNFISH	11.60	5.15
REDEAR SUNFISH	1.78	2.48
GREEN SUNFISH	1.33	0.54
WARMOUTH	1.29	0.58
FRESHWATER DRUM	0.96	4.96
LARGemouth BASS	0.84	2.41
LOGPERCH	0.62	0.18
SPOTTED SUCKER	0.41	6.33
YELLOW BASS	0.31	0.05
BULLHEAD MINNOW	0.30	0.02
SPOTTED BASS	0.26	0.17
SMALLMOUTH BASS	0.21	0.25
SMALLMOUTH BUFFALO	0.21	10.55
GOLDEN REDHORSE	0.19	3.72
BLACKSPOTTED TOPMINNOW	0.12	0.01
ORANGESPOTTED SUNFISH	0.11	0.02
WHITE CRAPPIE	0.11	0.49
WHITE BASS	0.08	0.07
FLATHEAD CATFISH	0.07	0.71
GOLDEN SHINER	0.06	0.08
EMERALD SHINER	0.05	T
SPOTTED GAR	0.04	0.91
CHANNEL CATFISH	0.04	0.82
SILVER REDHORSE	0.04	0.99
BROOK SILVERSID	0.03	T
SAUGER	0.03	0.09
SKIPJACK HERRING	0.03	0.06
SILVER CHUB	0.01	T
BIGMOUTH BUFFALO	0.01	0.92
STRIPETAIL DARTER	0.01	T
MOSQUITOFISH	T	T
CARP	T	0.75
LONGNOSE GAR	T	0.20
FANTAIL DARTER	T	T
BLACK CRAPPIE	T	0.02
YELLOW PERCH	T	T
TADPOLE MADTOM	T	T
STONEROLLER	T	T
RIVER DARTER	T	T
	100.00	100.00

T = LESS THAN 0.01 PERCENT

TABLE 16. SIZE DISTRIBUTION OF MAJOR FISH GROUPS, WHEELER
RESERVOIR, 1979

FISH GROUP	*****PERCENT BY NUMBER*****				*****PERCENT BY WEIGHT*****			
	YOUNG OF YEAR	INTER- MEDIATE	HARVEST- ABLE	TOTAL	YOUNG OF YEAR	INTER- MEDIATE	HARVEST- ABLE	TOTAL
CAME	20.7	16.0	3.3	40.0	2.8	11.1	11.1	25.0
ROUGH	0.3	0.4	1.2	2.0	0.1	1.0	29.7	30.9
FORAGE	23.2	0.1	34.7	58.0	4.6	0.0	39.5	44.1
TOTAL	44.2	16.5	39.3	100.0	7.5	12.1	80.4	100.0

APPENDIX C

Task 2

Physical Data on Young-of-the-Year Fish Selected for DDTR Analysis

Physical Data on Young-of-the-Year Fish Selected
for DDTR Analysis

<u>Sample #</u>	<u>Location</u>	<u>Species</u>	<u>Length (mm)</u>	<u>Weight (gm)</u>
DDT 2M-1	Elk River	Bluegill	91	15.7
			84	11.8
			85	12.2
DDT 2M-2	Elk River	Bluegill	78	9.0
			56	3.5
			63	4.5
			58	3.8
			55	3.1
			55	3.4
			54	3.2
			50	2.2
			54	3.2
			51	2.7
			55	3.3
			52	2.7
			50	2.7
			48	2.4
			46	2.1
			50	2.8
			52	2.8
DDT 2M-3	Elk River	Gizzard Shad	49	2.5
			50	2.7
			48	2.1
			49	2.0
			52	2.8
			49	2.1
			45	1.8
DDT 2M-4	Elk River	Gizzard Shad	120	18.1
			116	15.2
			120	15.0
			120	15.9
			120	16.3
DDT 2M-5	Elk River	Largemouth Bass	117	16.1
			90	6.0
DDT 2M-6	Elk River	Largemouth Bass	85	5.6
			108	17.0
			109	15.0
			102	11.7
			94	9.7
			87	7.6
			84	8.2
			85	7.1
			83	7.1
			85	6.9

<u>Sample #</u>	<u>Location</u>	<u>Species</u>	<u>Length</u> (mm)	<u>Weight</u> (gm)
DDT 2M-7	Elk River	Largemouth Bass	75	5.1
			74	5.0
			76	5.1
			71	4.3
			68	3.7
DDT 2M-8	Lawrence Co. Park-Wheeler Lake	Bluegill	55	2.7
			45	1.6
			47	0.9
			46	1.6
			44	2.0
			41	2.2
			40	1.9
			48	1.7
			45	1.4
			34	1.3
			44	1.2
			40	1.1
DDT 2M-9	Lawrence Co. Park-Wheeler Lake	Bluegill	35	0.9
			36	0.8
			35	0.6
			37	0.5
			33	0.6
			27	0.3
			35	0.8
			33	0.6
			35	0.5
			30	0.7
			34	0.6
			37	0.8
DDT 2M-10	Lawrence Co. Park-Wheeler Lake	Gizzard Shad	37	1.0
			80	3.8
			85	5.4
			86	5.5
			87	4.4
			84	5.2
			80	3.8
DDT 2M-11	Lawrence Co. Park-Wheeler Lake	Gizzard Shad	82	4.2
			80	3.9
			75	3.4
			75	3.0
			76	3.5
			75	3.6
			77	3.2
			70	2.9
			71	2.9
			65	2.3
			65	2.2
			65	2.4

<u>Sample #</u>	<u>Location</u>	<u>Species</u>	<u>Length</u> (mm)	<u>Weight</u> (gm)
DDT 2M-12	Huntsville Spring Branch	Gizzard Shad	82	4.8
			84	5.3
			84	5.1
			88	6.1
			84	5.5
			79	4.2
			85	5.4
			80	4.1
			83	5.2
			92	7.2
			72	3.6
			75	3.7
DDT 2M-13	Huntsville Spring Branch	Gizzard Shad	76	3.2
			67	2.4
			71	3.1
			64	2.9
			74	3.6
			70	2.1
			63	2.1
			62	2.2
DDT 2M-14	Huntsville Spring Branch	Gizzard Shad	63	2.0
			60	1.8
			60	1.7
			50	1.0
			71	3.7
			71	7.7
			65	5.5
			64	5.1
DDT 2M-15	Huntsville Spring Branch	Bluegill	59	3.7
			51	2.9
			57	2.5
			45	1.9
			54	2.6
			48	2.1
			47	1.7
			45	1.2
DDT 2M-16	Huntsville Spring Branch	Bluegill	46	1.8
			42	1.1
			35	0.5
			40	1.1
			40	1.2
			40	0.9
			41	1.1
			38	1.0
			40	0.9
			44	1.1
			40	0.8
			37	0.7
DDT 2M-17	Huntsville Spring Branch	Bluegill	35	0.4
			40	0.9
			36	0.7

<u>Sample #</u>	<u>Location</u>	<u>Species</u>	<u>Length</u> (mm)	<u>Weight</u> (gm)
DDT 2M-18	Indian Creek	Bluegill	65	5.0
			64	5.3
			67	6.1
			64	5.4
			65	6.0
			65	6.0
			60	4.8
			60	4.2
			62	4.8
			67	5.6
			65	4.8
			56	3.4
			55	2.8
DDT 2M-19	Indian Creek	Bluegill	54	3.4
			55	2.9
			50	2.6
			49	2.3
			50	2.5
			49	2.1
			50	2.5
			50	2.4
			45	1.8
			54	2.9
			54	2.7
			49	2.1
			45	1.6
DDT 2M-20	Indian Creek	Gizzard Shad	87	5.1
			85	5.4
			89	6.4
			90	6.9
			84	5.5
			81	4.5
			80	4.7
DDT 2M-21	Indian Creek	Gizzard Shad	72	3.8
			72	3.5
			74	4.1
			77	4.3
			75	4.0
			75	4.0
			73	3.6
			75	3.9
			72	3.1
			75	3.7
			75	4.7
			70	3.2
			72	3.6
			60	3.9

<u>Sample #</u>	<u>Location</u>	<u>Species</u>	<u>Length</u> (mm)	<u>Weight</u> (gm)
DDT 2M-22	Indian Creek	Largemouth Bass	107	13.6
			100	11.4
			115	16.9
			110	16.7
			101	11.5
			107	14.8
DDT 2M-23	Indian Creek	Largemouth Bass	100	10.8
			90	13.3
			93	13.9
			93	13.3
DDT 2M-24	Indian Creek	Largemouth Bass	74	3.9
			85	5.9
			76	4.0
			80	5.0
			79	5.5
			72	4.0

APPENDIX D

Task 2

DDTR Analysis Data for Young-of-the-Year Fish Samples

TASK 2 FISH POPULATION ESTIMATES FOR INDIAN CREEK AND HUNTSVILLE SPRING BRANCH GRAYBAYS OF WHEELER RESERVOIR DOT ANALYSIS OF YOUNG OF YEAR FISHES

LOCATION	LABID	SPECIES	LENGTH RANGE (MM)	Σ LIPIDS	NUMBER OF FISH	CONCENTRATIONS OF DDT MEASURED IN FISH ¹ -						—TOTAL—	
						DDT-O,P (UG/G)	DDT-P,P (UG/G)	DDD-O,P (UG/G)	DDD-P,P (UG/G)	DDP-O,P (UG/G)	DDP-P,P (UG/G)	MINIMUM (UG/G)	MAXIMUM (UG/G)
K RIVER	2M-001	BLUEGILL	078-091	2.76	4	0.080	<0.020	0.090	0.020	0.190	0.360	0.430	
	2M-002	BLUEGILL	045-063	2.01	24	0.040	<0.020	0.055	0.041	0.069	0.205	0.245	
	2M-003	GIZ. SHAD	116-120	4.05	6	<0.040	<0.040	0.029	0.130	0.150	0.309	0.409	
	2M-004	GIZ. SHAD	085-090	0.17	2	<0.080	<0.080	<0.060	<0.050	<0.050	0.000	0.370	
	2M-005	L.M. BASS	102-109	0.40	3	<0.050	<0.040	<0.030	0.037	0.037	0.037	0.217	
	2M-006	L.M. BASS	083-094	0.13	6	<0.050	<0.050	<0.030	<0.030	<0.030	0.000	0.220	
	2M-007	L.M. BASS	068-076	0.30	5	<0.050	<0.040	<0.030	0.041	0.041	0.000	0.221	
	2M-015	BLUEGILL	050-071	2.18	5	0.610	0.470	9.850	37.6	3.310	10.7	62.540	
	2M-016	BLUEGILL	045-057	0.84	8	0.600	0.310	9.860	34.7	4.010	11.9	61.360	
	2M-017	BLUEGILL	035-044	1.87	13	1.320	0.870	17.8	68.8	7.360	22.2	118.350	
	2M-012	GIZ. SHAD	079-092	0.93	10	0.890	0.480	11.2	23.4	2.900	8.370	47.240	
	2M-013	GIZ. SHAD	064-076	2.65	8	2.190	1.760	34.9	74.5	9.340	28	150.690	
	2M-014	GIZ. SHAD	050-063	0.39	6	0.150	<0.070	3.110	5.770	0.920	3.050	13.400	
	2M-018	BLUEGILL	060-067	1.17	11	0.210	<0.040	2.200	10.6	1.270	3.630	17.950	
	2M-019	BLUEGILL	045-056	1.51	15	0.190	0.079	2.510	12.3	1.590	4.600	21.269	
	2M-020	GIZ. SHAD	080-090	1.81	7	0.580	0.430	12.4	29.8	3.620	11.1	57.930	
DIAM CREEK	2M-021	GIZ. SHAD	060-072	0.55	14	0.260	0.120	4.000	9.240	1.190	3.560	18.470	
	2M-008	BLUEGILL	034-055	1.03	12	<0.050	<0.050	<0.040	0.070	<0.030	0.093	0.333	
	2M-009	BLUEGILL	027-037	0.43	13	<0.100	<0.100	<0.080	0.072	<0.070	0.092	0.314	
	2M-010	GIZ. SHAD	080-087	1.09	8	<0.040	<0.040	<0.030	0.140	<0.030	0.390	0.250	
	2M-011	GIZ. SHAD	067-077	0.22	10	<0.030	<0.030	<0.020	<0.020	0.018	0.018	0.138	
	2M-022	L.M. BASS	100-115	0.20	6	<0.050	<0.040	<0.030	0.028	<0.030	0.062	0.240	
	2M-023	L.M. BASS	090-100	0.20	4	<0.050	<0.040	<0.030	<0.030	<0.030	0.085	0.275	
	2M-024	L.M. BASS	070-085	0.31	6	<0.050	<0.040	<0.030	0.044	<0.030	0.120	0.314	

FOOTNOTES:
ELK RIVER AND LAWRENCE CO. PARK SAMPLES COLLECTED 8/79

LEER RIVER AND LAWRENCE CO. PARK SAMPLES COLLECTED 8/79
HUNTSVILLE SPRING BRANCH AND INDIAN CREEK SAMPLES COLLECTED 9/79

NUMBER OF FISH COLUMN INDICATES NUMBER OF FISH COMPOSITED:

NUMBER OF FISH COLUMN INDICATES NUMBER OF FISH COMPOSED:
MINIMUM TOTAL DOTA CALCULATED BY SETTING ALL LESS THAN VALUES TO ZERO.

MAXIMUM TOTAL DOTT CALCULATED BY SETTING ALL LESS THAN VALUES TO ZERO.

--- ALL SAMPLES ANALYZED BY STEWART LABORATORIES, INC.

-- INDICATES SAMPLE IS A MERGED VALUE (VALUE REPORTED IS THE AVERAGE OF TWO ANALYSES).

--- INDICATES SAMPLE IS A MERGED VALUE (VALUE REPORTED IS THE AVERAGE OF TWO ANALYSES).

ALL SAMPLES IN THIS TABULATION WERE ORIGINALLY PREPARED BY SLI FOR ANALYSIS ON 12-12-79. INTERLAB COMPARISONS INDICATED THESE DATA WERE SIGNIFICANTLY LOWER THAN EPA DATA. REFER TO QUALITY ASSURANCE DOCUMENT FOR DETAILS.

ENGINEERING AND ENVIRONMENTAL STUDY
OF DDT CONTAMINATION OF HUNTSVILLE
SPRING BRANCH, INDIAN CREEK, AND
ADJACENT LANDS AND WATERS,
WHEELER RESERVOIR, ALABAMA

TASK 3

ASSESSMENT OF DDT CONCENTRATIONS
IN SEDIMENTS CORRESPONDING TO
AREA-WIDE FISHERIES STUDIES

Tennessee Valley Authority
Office of Natural Resources

August 1980

PREFACE

This document was prepared in support of the Engineering and Environmental Study of DDT contamination of Huntsville Spring Branch, Indian Creek, and Adjacent Lands and Waters, Wheeler Reservoir, Alabama, for the U.S. Corps of Engineers.

This document contains information produced in fulfillment of an interagency agreement between the U.S. Corps of Engineers and the Tennessee Valley Authority (TVA Contract No. TV-52305A).

CONTENTS

Worktask Description	Page 1
Sampling Location Maps	Appendix A
Raw Data Tabulations	Appendix B

TASK 3

WORKTASK DESCRIPTION

TASK 3

ASSESSMENT OF DDT CONCENTRATIONS IN SEDIMENTS CORRESPONDING TO AREA-WIDE FISHERIES STUDIES

1.0 Purpose

To define the areal extent of DDT contamination of sediments throughout Wheeler Reservoir.

2.0 Scope

Bottom sediment samples were collected throughout Wheeler Reservoir, on the main stream Tennessee River and from selected tributaries, and from selected locations on the adjacent Wilson and Guntersville Reservoirs. Water samples also were collected. Sediment samples were analyzed for particle size distribution; sediment and water samples were analyzed for DDT residues which consisted of two isomers of each metabolite (DDT, DDE, DDD).

3.0 Procedure

3.1 Sample Locations

3.1.1 Sediment sample collections were attempted from the following locations: cross sections at 5-mile intervals between TRM 260 and 350, cross sections at TRM 375 and 400, and cross sections at the 15 tributary stations listed in Table 1 and shown on the maps in Appendix A. Samples were collected at five equidistant points along each cross section. However, field crews were unable to collect sediment samples from a one hundred mile reach of the Tennessee River, beginning at TRM 305, about 16 miles downstream of Triana, to TRM 400 in Guntersville Reservoir, at the prescribed 5-mile intervals (except at TRM 325 and 350). Subsequent sampling

Table 1

SEDIMENT SAMPLING LOCATIONS

Assessment of DDT Concentrations in
Sediments Corresponding to Area-Wide Fisheries
Studies

<u>Stream</u>	<u>Mile</u>	<u>Reservoir</u>	<u>Sediment</u>	<u>Water</u>
Tennessee River	260	Wilson	X	
Tennessee River	265	Wilson	X	
Tennessee River	270	Wilson	X	X
Tennessee River	275	Wheeler	X	
Tennessee River	280	Wheeler	X	
Tennessee River	285	Wheeler	X	
Tennessee River	290	Wheeler	X	X
Tennessee River	295	Wheeler	X	
Tennessee River	300	Wheeler	X	
Tennessee River	305	Wheeler	X	
Tennessee River	310	Wheeler	X	
Tennessee River	315	Wheeler	X	X
Tennessee River	320	Wheeler	X	
Tennessee River	325	Wheeler	X	
Tennessee River	330	Wheeler	X	
Tennessee River	335	Wheeler	X	
Tennessee River	340	Wheeler	X	
Tennessee River	345	Wheeler	X	X
Tennessee River	350	Guntersville	X	X
Tennessee River	375	Guntersville	X	
Tennessee River	400	Guntersville	X	
Elk River	5	Wheeler	X	X
Elk River	10	Wheeler	X	X
Elk River	15	Wheeler	X	X
Spring Creek*	1.0	Wheeler	X	X
Spring Creek	2.0	Wheeler	X	X
Limestone Creek*	1.5	Wheeler	X	X
Limestone Creek	3.0	Wheeler	X	X
Flint Creek*	6.7	Wheeler	X	X
Flint Creek	13.3	Wheeler	X	X
Cotaco Creek*	3.8	Wheeler	X	X
Cotaco Creek	7.7	Wheeler	X	X
Flint River*	1.2	Wheeler	X	X
Flint River	2.5	Wheeler	X	X
Paint Rock River*	1.9	Wheeler	X	X
Paint Rock River	3.9	Wheeler	X	X

*At Spring Creek, Limestone Creek, Flint Creek, Cotaco Creek, Flint River, and Paint Rock River the two sampling locations (each tributary) approximate the 1/3 and 2/3 river mile distance between the inflow of the tributary at winter pool (upstream location of backwater effect) and the mouth of the tributary with the Tennessee River.

above and below the prescribed transects indicated a hard bottom with no collectable sediment. A third attempt was made to sample these areas based on siltation data. These locations are shown in table 2. This attempt was also unsuccessful except for TRM 320.8 where sediment was found at two horizontal locations.

- 3.1.2 Water samples were collected from the stations shown in Tables 1 and 2 and on the maps in Appendix A.

3.2 Field Collection

- 3.2.1 Sediment samples were collected by dredge, passed through a 1/4-inch mesh screen, mixed for uniformity, and placed in specially prepared glass pint jars. If possible, one pint of sediment was collected at each location. Each sample was handled separately and identified properly.
- 3.2.2 Water samples were collected by a hand-held sampling device and placed in specially prepared glass bottles. A total volume of one gallon was required at each sampling station. The additional composite water samples collected from the eight stations in table 2 included: (1) a near-bottom composite, which was obtained by first measuring the water depth with a separate line and then triggering the sampler at three feet above the measured depth; and (2) a full water column composite, which was obtained by sampling the water column above the "near bottom composite" at four equidistant points, and compositing all samples collected across a transect.

3.3 Sample Handling

- 3.3.1 Sediment samples were collected in 1-pint glass containers (Mason jars) specially cleaned for pesticide analysis. Container lids were lined with aluminum foil.

Table 2. Additional Locations for the Collection of Water
and Sediment Samples for DDTR Analysis

Sediment and Water Samples

TRM 305.7 (Silt Range 40)
TRM 309.7 (Silt Range 44)
TRM 314.0 (Silt Range 50)
TRM 320.8 (Silt Range 57)
TRM 326.0
TRM 331.0
TRM 333.6 (Silt Range 63)
TRM 343.9 (Silt Range 68)
TRM 395.0

Water Samples only

TRM 375.0
Elk Rv. 8.5
Spring Cr. 1.5
Limestone Cr. 1.5
Flint Cr. 2.0
Cotaco Cr. 1.2
Flint Rv. 1.6
Paint Rock Rv. 1.3

3.3.2 Water samples were collected in glass bottles specially cleaned for pesticide analysis. A total volume of one gallon was required for each sampling location.

3.3.3 All sediment and water samples were placed on ice immediately upon collection, and kept at 4°C through transportation to the laboratory.

3.4 Sample Analysis

3.4.1 The five sediment samples collected at each cross section were composited in the laboratory into one sample for analysis. Each composite sediment sample was analyzed for particle size distribution ranging from > 2.0 mm to < 0.25 µm. This analysis included % moisture and % volatile solids. All six forms of DDT residues were measured on all composite samples.

3.4.2 Water samples were analyzed for all six forms of DDT. In addition, each water sample listed in table 2 was analyzed for total and filterable DDTR.

3.4.3 All analyses were performed by approved or acceptable procedures. Approximately 10 percent of all analyses were replicated. Additionally, approximately 10 percent of all samples analyzed were split and analyzed by a second laboratory. Spiked samples were also utilized to document accuracy of laboratory results (see Quality Assurance document for details).

3.5 Data Handling and Reporting

3.5.1 All data are summarized into a tabular form and appear in Appendix B. This table includes: Sample identification number, location, date collected, and all analytical data (each of six forms of DDT and total minimum and maximum residue concentration).

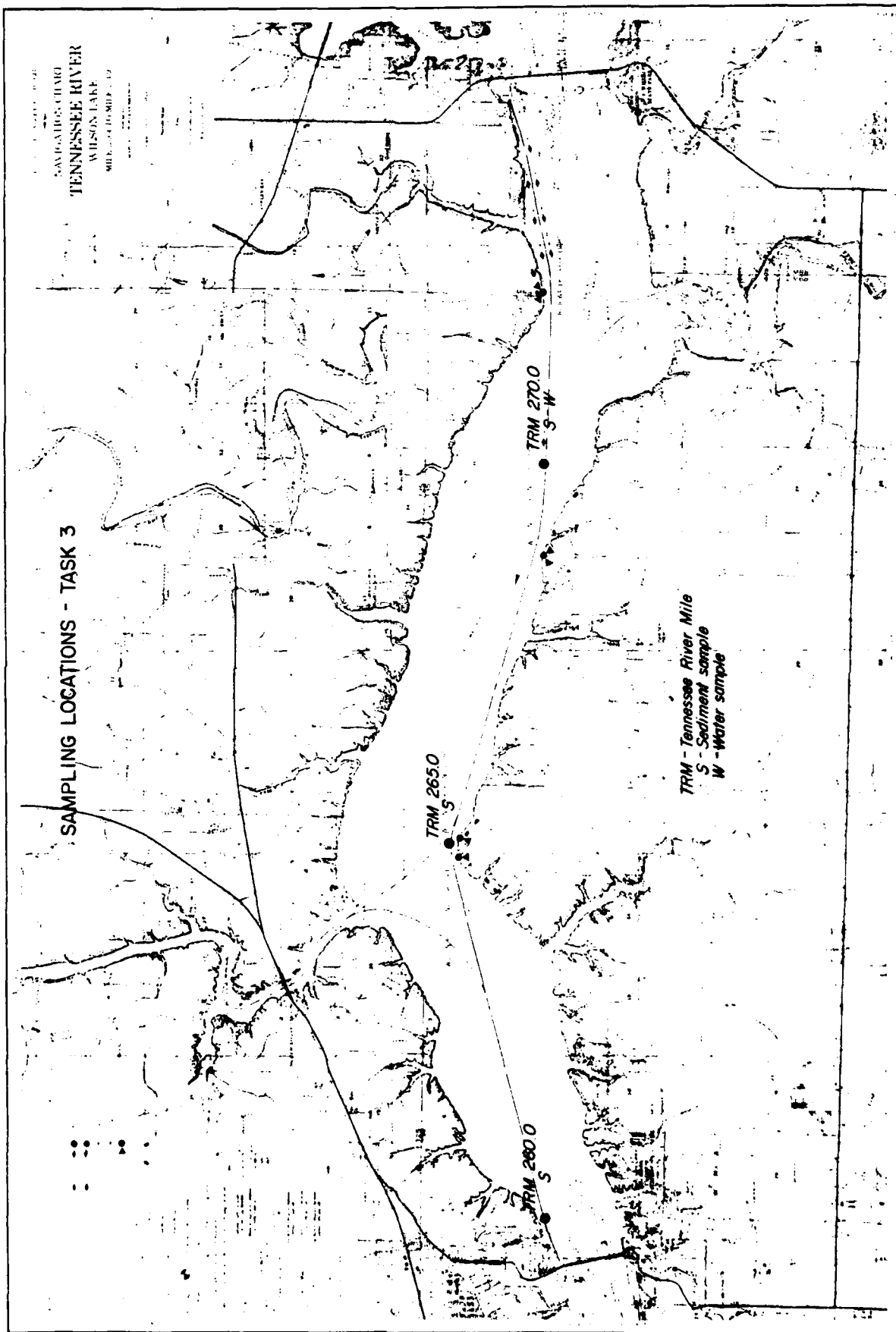
APPENDIX A

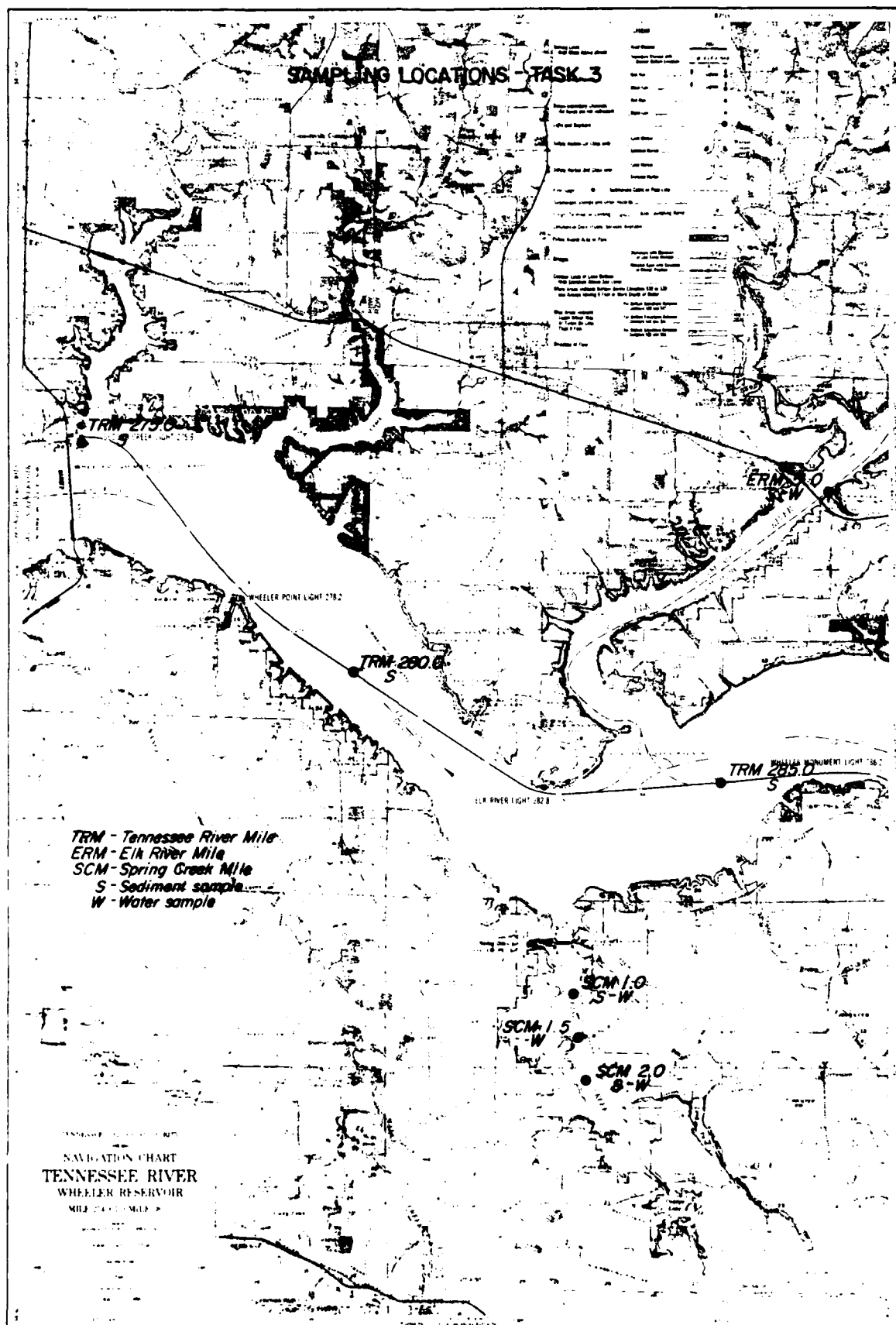
TASK 3

SAMPLING LOCATION MAPS

SAVING THE CHARD
TENNESSEE RIVER
WILSON LAKE
MILE 0.0 TO 0.19

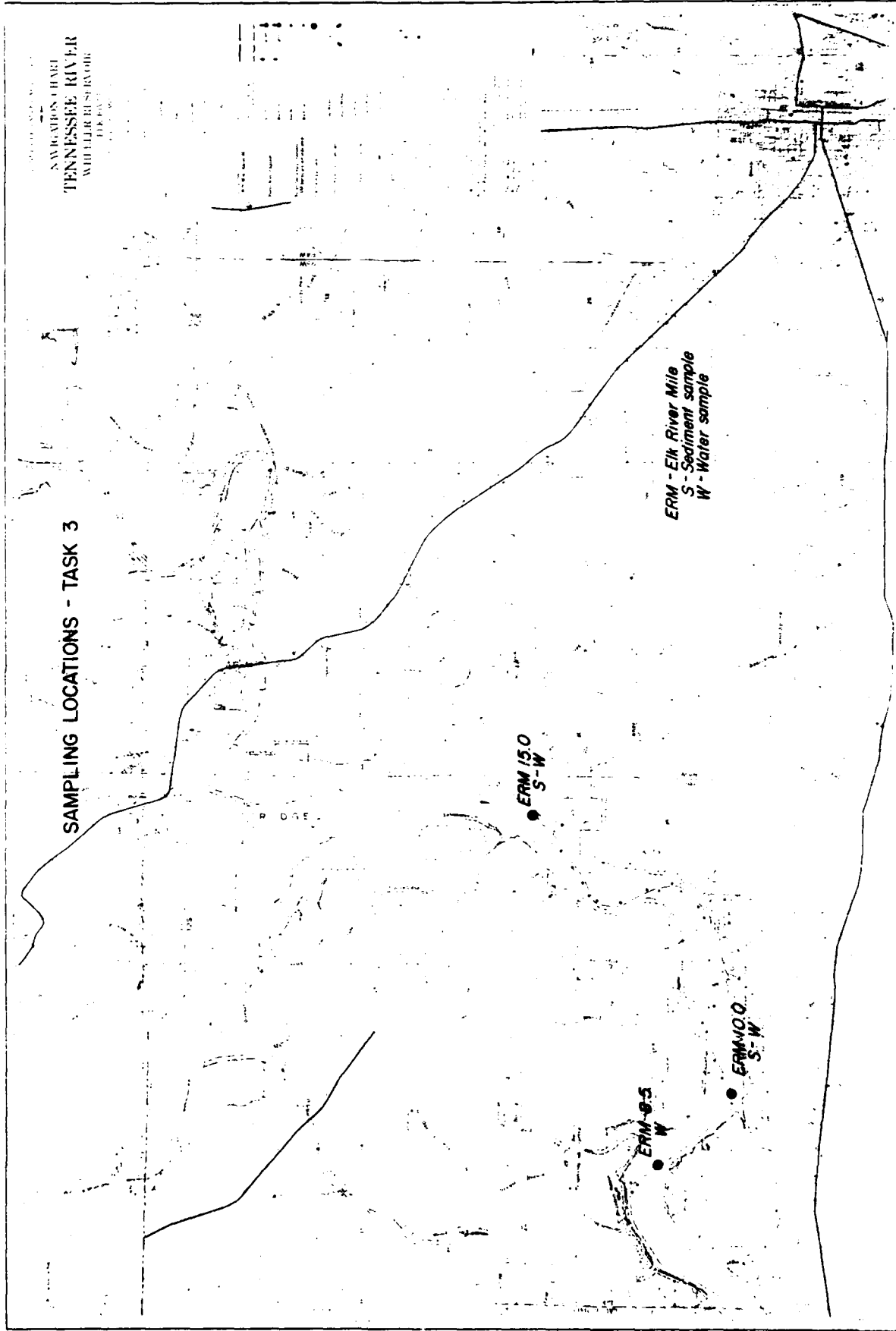
SAMPLING LOCATIONS - TASK 3



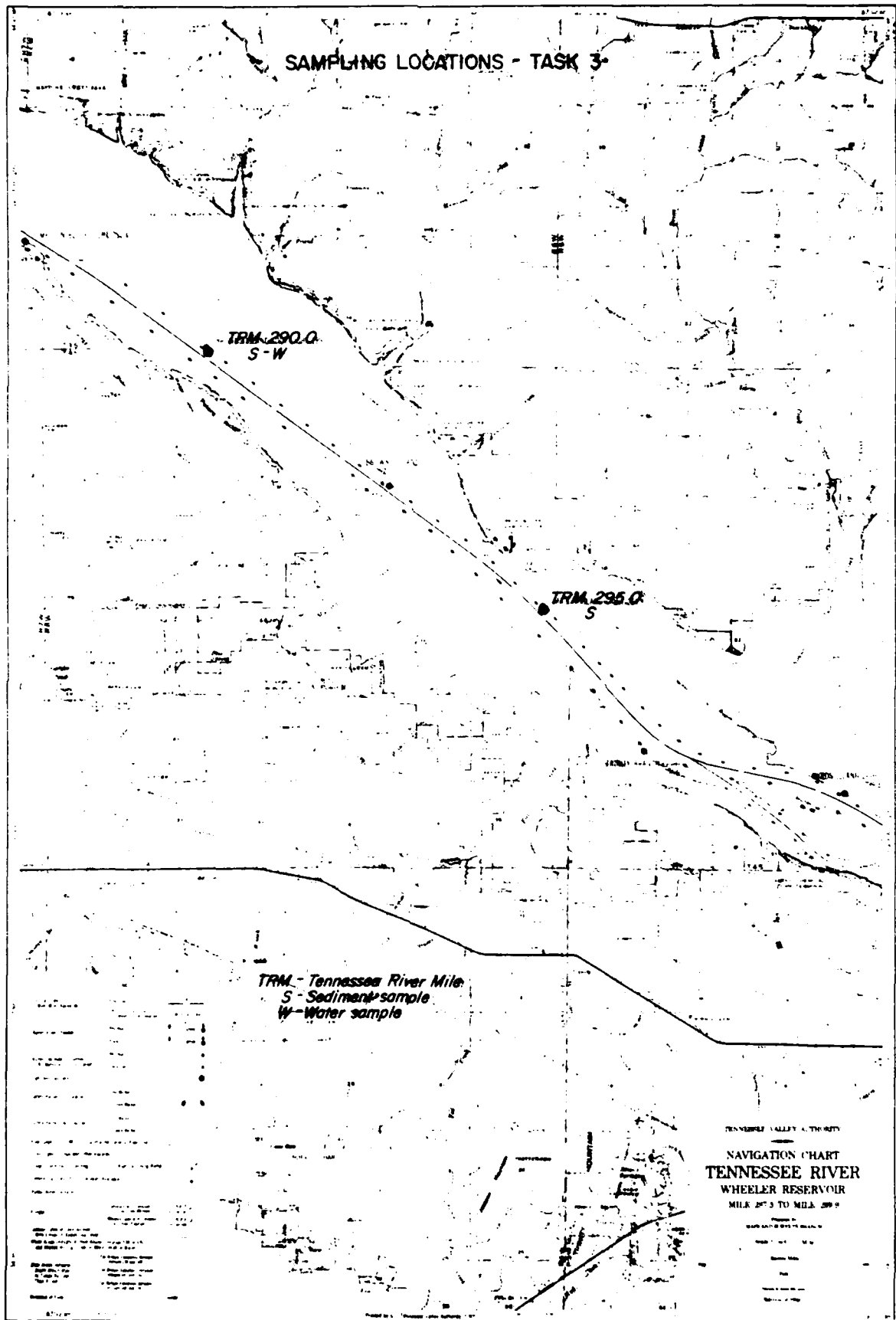


NAVIGABLE CHANNEL
TENNESSEE RIVER
WHEELER RESERVOIR
TENN.

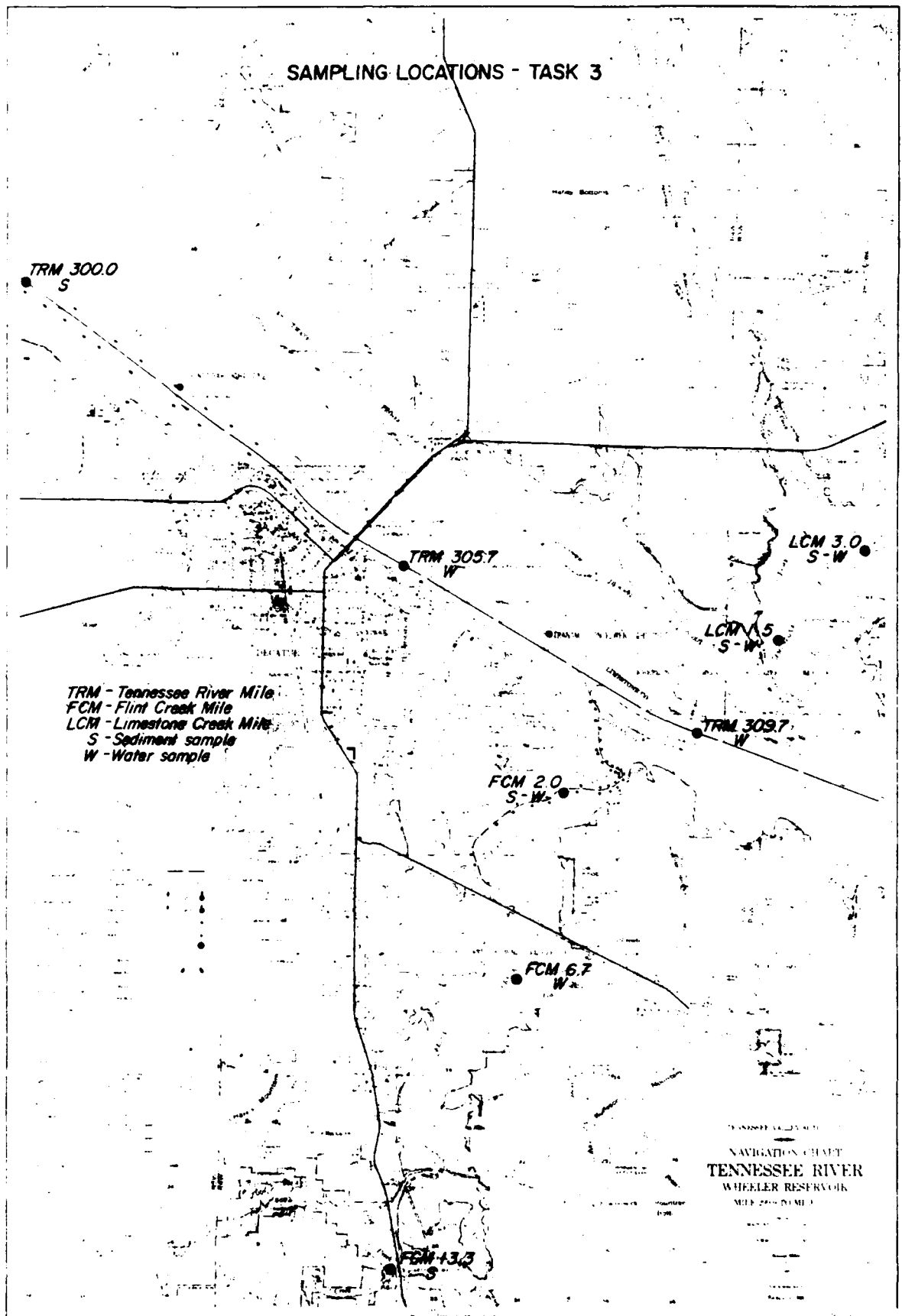
SAMPLING LOCATIONS - TASK 3



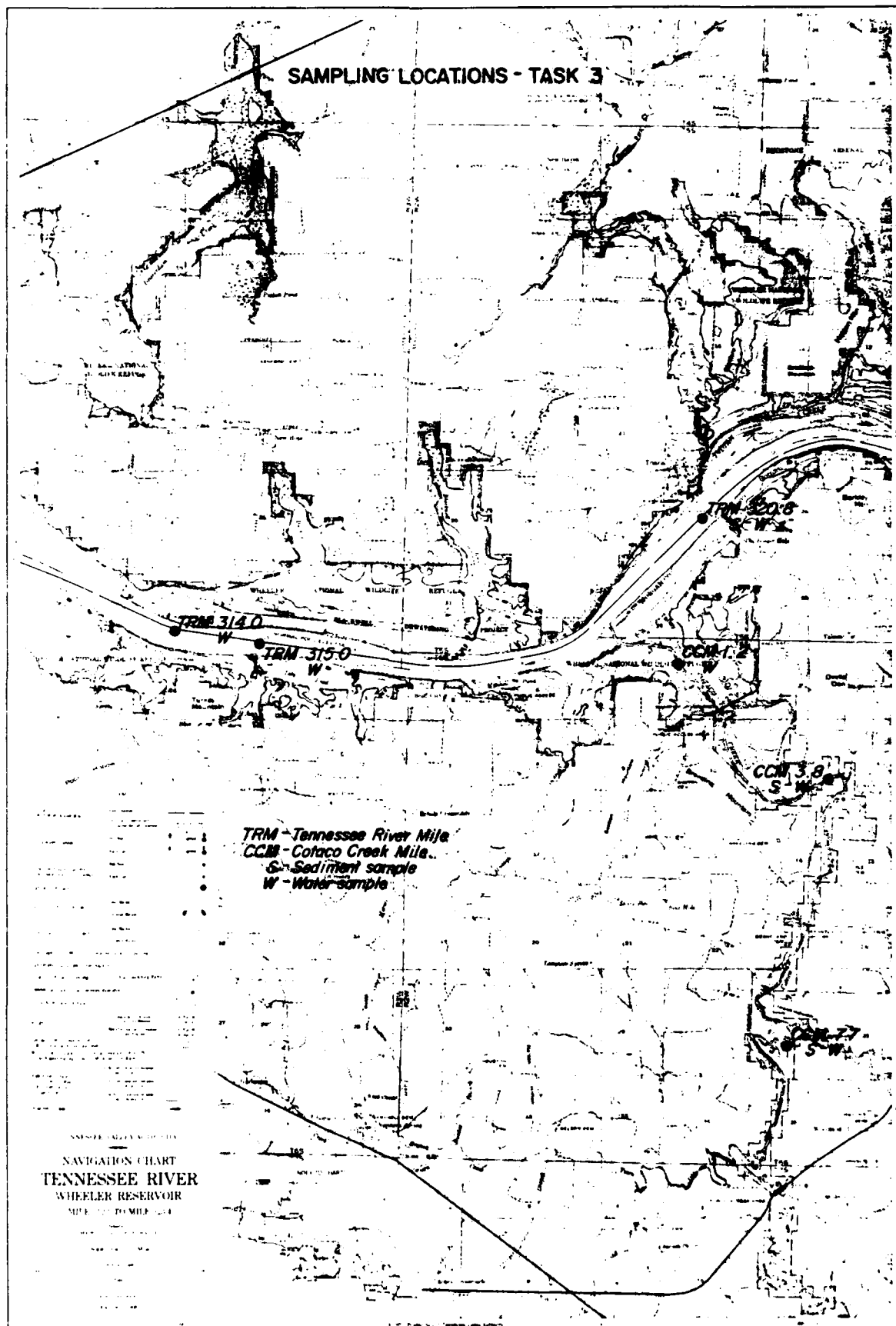
SAMPLING LOCATIONS - TASK 3



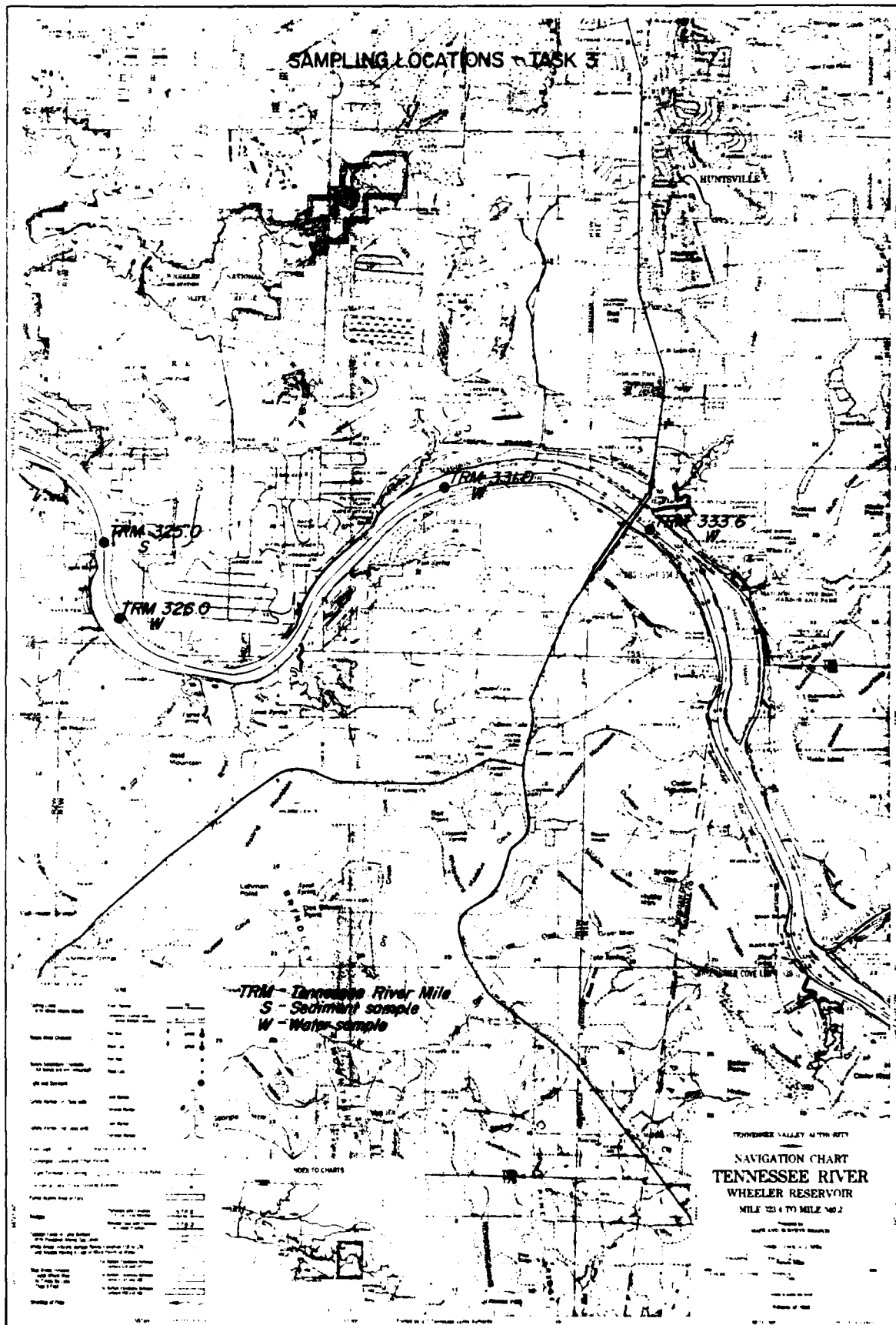
SAMPLING LOCATIONS - TASK 3



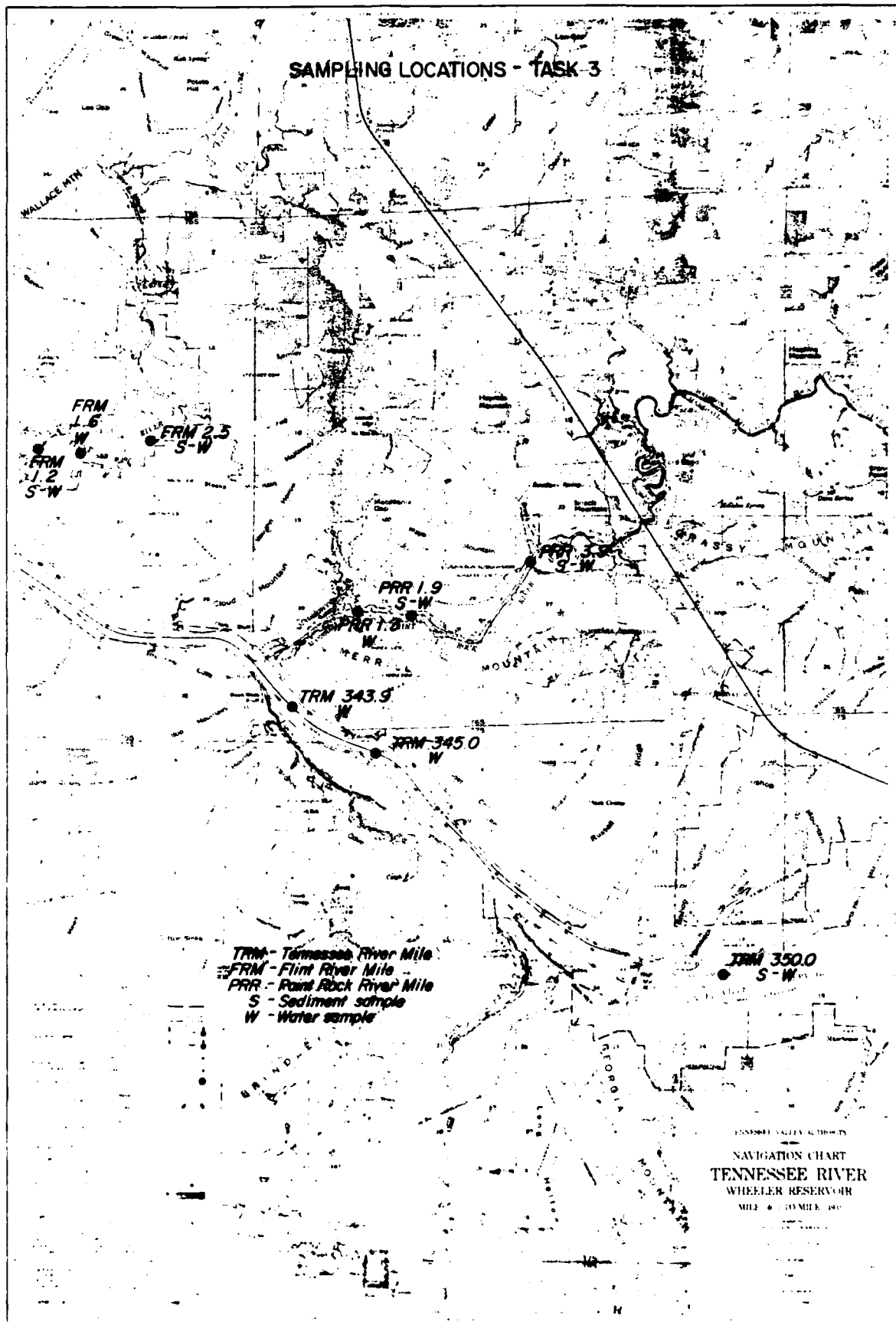
SAMPLING LOCATIONS - TASK 3

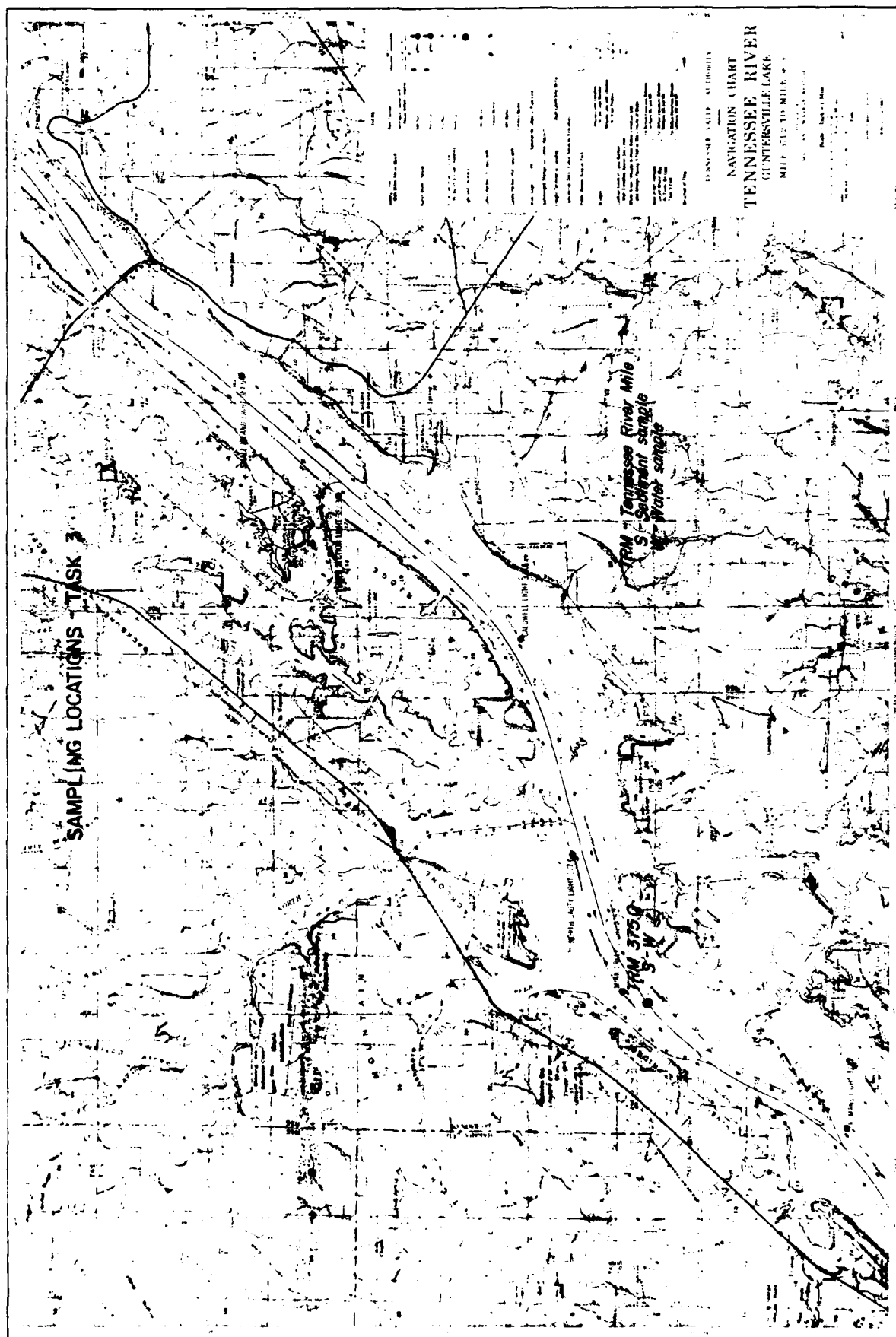


SAMPLING LOCATIONS - TASK 3



SAMPLING LOCATIONS - TASK 3





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APPENDIX B
RAW DATA TABULATIONS

C

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK 3 - ASSESSMENT OF DDT CONCENTRATIONS IN SEDIMENTS CORRESPONDING TO AREA-WIDE FISHERIES STUDIES

STREAM	MILE	HORIZONTAL LOCATION	DATE	LABID	TOTAL CONCENTRATIONS OF DDT MEASURED IN WATER										---TOTAL DDT---		REMARKS
					DDT-O,P (UG/L)	DDT-P,P (UG/L)	DDD-O,P (UG/L)	DDD-P,P (UG/L)	DDE-O,P (UG/L)	DDE-P,P (UG/L)	MINIMUM (UG/L)	MAXIMUM (UG/L)					
CATACO CREEK	3-8	COMP	2AUG79	3-041	<0.040	<0.040	<0.040	<0.040	<0.020	<0.020	0.000	0.200			NBS		
CATACO CREEK	7-7	COMP	2AUG79	3-037	<0.040	<0.040	<0.040	<0.040	<0.020	<0.020	0.000	0.200			NBS		
ELK RIVER	5-0	COMP	2AUG79	3-025	<0.040	<0.040	<0.040	<0.040	<0.020	<0.020	0.000	0.200			NBS		
ELK RIVER	10-0	COMP	2AUG79	3-027	<0.040	<0.040	<0.040	<0.040	<0.020	<0.020	0.000	0.200			NBS		
ELK RIVER	15-0	COMP	2AUG79	3-029	<0.040	<0.040	<0.040	<0.040	<0.020	<0.020	0.000	0.200			NBS		
FLINT CREEK	6-7	COMP	2AUG79	3-031	<0.040	<0.040	<0.040	<0.040	<0.020	<0.020	0.000	0.200			NBS		
FLINT RIVER	1-2	COMP	1AUG79	3-019	<0.040	<0.040	<0.040	<0.040	<0.020	<0.020	0.000	0.200			NBS		
FLINT RIVER	2-5	COMP	1AUG79	3-021	<0.040	<0.040	<0.040	<0.040	<0.020	<0.020	0.000	0.200			NBS		
LIMESTONE CREEK	1-5	COMP	2AUG79	3-033	<0.040	<0.040	<0.040	<0.040	<0.020	<0.020	0.000	0.200			NBS		
LIMESTONE CREEK	3-0	COMP	2AUG79	3-043	<0.040	<0.040	<0.040	<0.040	<0.020	<0.020	0.000	0.200			NBS		
PAINT ROCK RIVER	1-9	COMP	1AUG79	3-015	<0.040	<0.040	<0.040	<0.040	<0.020	<0.020	0.000	0.200			NBS		
PAINT ROCK RIVER	3-9	COMP	1AUG79	3-017	<0.040	<0.040	<0.040	<0.040	<0.020	<0.020	0.000	0.200			NBS		
SPRING CREEK	1-0	COMP	30JUL79	3-002	<0.040	<0.040	<0.040	<0.040	<0.020	<0.020	0.000	0.200			NBS		
SPRING CREEK	2-0	COMP	30JUL79	3-004	<0.040	<0.040	<0.040	<0.040	<0.020	<0.020	0.000	0.200			NBS		
TENNESSEE RIVER	270-0	COMP	30JUL79	3-007	<0.040	<0.040	<0.040	<0.040	<0.020	<0.020	0.000	0.200			NBS		
TENNESSEE RIVER	290-0	COMP	31JUL79	3-012	<0.040	<0.040	<0.040	<0.040	<0.020	<0.020	0.000	0.200			NBS		
TENNESSEE RIVER	315-0	COMP	31JUL79	3-010	<0.040	<0.040	<0.040	<0.040	<0.020	<0.020	0.000	0.200			NBS		
TENNESSEE RIVER	345-0	COMP	1AUG79	3-024	<0.040	<0.040	<0.040	<0.040	<0.020	<0.020	0.000	0.200			NBS		
TENNESSEE RIVER	350-0	COMP	2AUG79	3-035	<0.040	<0.040	<0.040	<0.040	<0.020	<0.020	0.000	0.200			NBS		
CATACO CREEK	1-2	COMP	14DEC79	3M-03	<0.080	0.096	0.120	0.140	<0.040	<0.040	0.356	0.516			NBS		
CATACO CREEK	1-2	COMP	14DEC79	3M-04	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400			FWC		
ELK RIVER	8-5	COMP	6DEC79	3M-30	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.110	0.430			NBS		
ELK RIVER	8-5	COMP	6DEC79	3M-31	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400			FWC		
FLINT CREEK	2-0	COMP	6DEC79	3M-24	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.130	0.450			NBS		
FLINT CREEK	2-0	COMP	6DEC79	3M-25	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400			NBS		
FLINT RIVER	1-6	COMP	6DEC79	3M-14	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.089	0.409			FWC		
FLINT RIVER	1-6	COMP	6DEC79	3M-15	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400			FWC		
LIMESTONE CREEK	1-5	COMP	6DEC79	3M-28	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400			NBS		
LIMESTONE CREEK	1-5	COMP	6DEC79	3M-29	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400			FWC		
PAINT ROCK CREEK	1-3	COMP	6DEC79	3M-18	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.096	0.416			NBS		
PAINT ROCK CREEK	1-3	COMP	6DEC79	3M-19	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400			FWC		
SPRING CREEK	1-5	COMP	6DEC79	3M-21	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.180	0.500			NBS		
SPRING CREEK	1-5	COMP	6DEC79	3M-22	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.100	0.420			FWC		
TENNESSEE RIVER	305-7	COMP	6DEC79	3M-23	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.083	0.403			NBS		
TENNESSEE RIVER	309-7	COMP	6DEC79	3M-26	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400			FWC		
TENNESSEE RIVER	309-7	COMP	6DEC79	3M-27	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400			NBS		
TENNESSEE RIVER	314-0	COMP	14DEC79	3M-01	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400			FWC		
TENNESSEE RIVER	314-0	COMP	14DEC79	3M-02	<0.080	0.490	0.670	0.540	0.070	0.130	1.900	1.980			NBS		
TENNESSEE RIVER	320-8	COMP	14DEC79	3M-05	<0.080	0.280	0.085	0.097	<0.040	<0.040	0.377	0.617			FWC		
TENNESSEE RIVER	320-8	COMP	14DEC79	3M-06	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.365	0.525			NBS		
TENNESSEE RIVER	326-0	COMP	14DEC79	3M-08	<0.080	0.230	<0.080	0.053	<0.040	<0.040	0.283	0.523			FWC		
TENNESSEE RIVER	326-0	COMP	14DEC79	3M-09	<0.080	0.120	<0.080	0.080	<0.040	<0.040	0.310	0.550			NBS		
TENNESSEE RIVER	331-0	COMP	6DEC79	3M-10	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.120	0.440			FWC		
TENNESSEE RIVER	331-0	COMP	6DEC79	3M-11	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.560	0.800			NBS		
TENNESSEE RIVER	333-6	COMP	6DEC79	3M-12	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400			FWC		
TENNESSEE RIVER	333-6	COMP	6DEC79	3M-13	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.410	0.650			NBS		
TENNESSEE RIVER	343-9	COMP	6DEC79	3M-14	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400			FWC		
TENNESSEE RIVER	343-9	COMP	6DEC79	3M-17	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400			NBS		
TENNESSEE RIVER	375-0	COMP	10DEC79	3M-32	<0.080	0.180	<0.080	0.090	<0.040	<0.040	0.270	0.510			FWC		

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
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WHEELER RESERVOIR, ALABAMA

TASK 3 - ASSESSMENT OF DDT CONCENTRATIONS IN SEDIMENTS CORRESPONDING TO AREA-WIDE FISHERIES STUDIES

STREAM	MILE	LOCATION	DATE	LABID	TOTAL CONCENTRATIONS OF DDT MEASURED IN WATER				---TOTAL DDT---		REMARKS
					DDT-O,P (UG/L)	DDT-P,P (UG/L)	DDO-O,P (UG/L)	DDE-O,P (UG/L)	MINIMUM (UG/L)	MAXIMUM (UG/L)	
TENNESSEE RIVER	375.0	COMP	10DEC79	3M-33	<0.080	<0.080	<0.080	<0.040	0.000	0.400	FWC
TENNESSEE RIVER	395.0	COMP	10DEC79	3M-34	<0.080	<0.080	<0.080	<0.040	0.000	0.400	NBS
TENNESSEE RIVER	395.0	COMP	10DEC79	3M-35	<0.080	<0.080	<0.080	<0.040	0.000	0.400	FWC

FOOTNOTES:

- NBS - COMPOSITE WATER SAMPLES PREPARED BY COMPOSITING EQUAL VOLUMES TAKEN FROM ONE FOOT OFF THE BOTTOM FROM FIVE (OR FOUR) EQUIDISTANT POINTS ALONG A CROSS-SECTION.
- FWC - COMPOSITE WATER SAMPLES PREPARED BY COMPOSITING DEPTH INTEGRATED SAMPLES TAKEN FROM FOUR EQUIDISTANT POINTS ALONG A CROSS-SECTION.
- MINIMUM TOTAL DDTR CALCULATED BY SETTING ALL LESS THAN VALUES TO ZERO.
- MAXIMUM TOTAL DDTR CALCULATED BY SETTING ALL LESS THAN VALUES TO THEIR ABSOLUTE VALUE.

**ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA**

TASK 3 - ASSESSMENT OF DDT CONCENTRATIONS IN SEDIMENTS CORRESPONDING TO AREA-WIDE FISHERIES STUDIES

STREAM	MILE	HORIZONTAL LOCATION	DATE	LABID	DISSOLVED CONCENTRATIONS OF DDT MEASURED IN WATER					---TOTAL DDT---		REMARKS	
					DDT-O,P (UG/L)	DDT-P,P (UG/L)	DDD-O,P (UG/L)	DDD-P,P (UG/L)	DOE-O,P (UG/L)	DOE-P,P (UG/L)	MINIMUM (UG/L)		MAXIMUM (UG/L)
CATACO CREEK	1.2	COMP	14DEC79	3M-03	<0.080	<0.080	0.120	0.140	<0.040	<0.040	0.260	0.500	NBS
	1.2	COMP	14DEC79	3M-04	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400	FMC
ELK RIVER	8.5	COMP	6DEC79	3M-30	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400	NBS
ELK RIVER	8.5	COMP	6DEC79	3M-31	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400	FMC
FLINT CREEK	2.0	COMP	6DEC79	3M-24	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400	NBS
FLINT CREEK	2.0	COMP	6DEC79	3M-25	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400	FMC
FLINT RIVER	1.6	COMP	6DEC79	3M-14	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400	NBS
FLINT RIVER	1.6	COMP	6DEC79	3M-15	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400	FMC
LIMESTONE CREEK	1.5	COMP	6DEC79	3M-28	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400	NBS
LIMESTONE CREEK	1.5	COMP	6DEC79	3M-29	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400	FMC
PAINT ROCK CREEK	1.3	COMP	6DEC79	3M-18	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400	NBS
PAINT ROCK CREEK	1.3	COMP	6DEC79	3M-19	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400	FMC
SPRING CREEK	1.5	COMP	6DEC79	3M-20	<0.080	0.100	<0.080	<0.080	<0.040	<0.040	0.100	0.420	NBS
SPRING CREEK	1.5	COMP	6DEC79	3M-21	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400	FMC
TENNESSEE RIVER	305.7	COMP	6DEC79	3M-22	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400	NBS
TENNESSEE RIVER	305.7	COMP	6DEC79	3M-23	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400	FMC
TENNESSEE RIVER	309.7	COMP	6DEC79	3M-26	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400	NBS
TENNESSEE RIVER	309.7	COMP	6DEC79	3M-27	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400	FMC
TENNESSEE RIVER	314.0	COMP	14DEC79	3M-01	<0.080	0.120	0.450	0.380	0.061	0.078	1.089	1.169	NBS
TENNESSEE RIVER	314.0	COMP	14DEC79	3M-02	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.086	0.406	FMC
TENNESSEE RIVER	320.8	COMP	14DEC79	3M-05	<0.080	<0.080	0.082	0.110	<0.040	<0.040	0.192	0.432	NBS
TENNESSEE RIVER	320.8	COMP	14DEC79	3M-06	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400	FMC
TENNESSEE RIVER	326.0	COMP	14DEC79	3M-08	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400	NBS
TENNESSEE RIVER	326.0	COMP	14DEC79	3M-09	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400	FMC
TENNESSEE RIVER	331.0	COMP	6DEC79	3M-10	<0.080	<0.080	<0.080	0.130	<0.040	<0.040	0.300	0.540	NBS
TENNESSEE RIVER	331.0	COMP	6DEC79	3M-11	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400	FMC
TENNESSEE RIVER	333.6	COMP	6DEC79	3M-12	<0.080	<0.080	<0.080	0.094	<0.040	<0.040	0.214	0.454	NBS
TENNESSEE RIVER	333.6	COMP	6DEC79	3M-13	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400	FMC
TENNESSEE RIVER	343.9	COMP	6DEC79	3M-16	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400	NBS
TENNESSEE RIVER	343.9	COMP	6DEC79	3M-17	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400	FMC
TENNESSEE RIVER	375.0	COMP	10DEC79	3M-32	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400	NBS
TENNESSEE RIVER	375.0	COMP	10DEC79	3M-33	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400	FMC
TENNESSEE RIVER	395.0	COMP	10DEC79	3M-34	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400	NBS
TENNESSEE RIVER	395.0	COMP	10DEC79	3M-35	<0.080	<0.080	<0.080	<0.080	<0.040	<0.040	0.000	0.400	FMC

FOOTNOTES:

- A. NBS - COMPOSITE WATER SAMPLES PREPARED BY COMPOSITING EQUAL VOLUMES TAKEN FROM ONE FOOT OFF THE BOTTOM FROM FIVE (OR FOUR) EQUIDISTANT POINTS ALONG A CROSS-SECTION.
- B. FMC - COMPOSITE WATER SAMPLES PREPARED BY COMPOSITING DEPTH INTEGRATED SAMPLES TAKEN FROM FOUR EQUIDISTANT POINTS ALONG A CROSS-SECTION.
- C. MINIMUM TOTAL DDT CALCULATED BY SETTING ALL LESS THAN VALUES TO ZERO.
- D. MAXIMUM TOTAL DDT CALCULATED BY SETTING ALL LESS THAN VALUES TO THEIR ABSOLUTE VALUE.

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK 3 - ASSESSMENT OF DDT CONCENTRATIONS IN SEDIMENTS CORRESPONDING TO AREA-WIDE FISHERIES STUDIES

STREAM	MILE	LOCATION	DATE	LABID	TOTAL CONCENTRATIONS OF DDT MEASURED IN SEDIMENT					---TOTAL DDT---		REMARKS
					DDT-O,P (UG/G)	DDT-P (UG/G)	DDO-O,P (UG/G)	DDO-P (UG/G)	DDO-O,P (UG/G)	MINIMUM (UG/G)	MAXIMUM (UG/G)	
CATACO CREEK	3-8	17	2AUG79		.	.	.	.	.	.	.	
CATACO CREEK	3-8	34	2AUG79		.	.	.	.	.	.	.	
CATACO CREEK	3-8	51	2AUG79		.	.	.	.	.	.	.	
CATACO CREEK	3-8	68	2AUG79		.	.	.	.	.	.	.	
CATACO CREEK	3-8	85	2AUG79		.	.	.	.	.	.	.	
CATACO CREEK	3-8	COMP	2AUG79	3-042	<0.020	<0.020	<0.020	<0.050	<0.010	0.000	0.140	
CATACO CREEK	7-7	17	2AUG79		.	.	.	.	.	.	.	
CATACO CREEK	7-7	34	2AUG79		.	.	.	.	.	.	.	
CATACO CREEK	7-7	51	2AUG79		.	.	.	.	.	.	.	
CATACO CREEK	7-7	68	2AUG79		.	.	.	.	.	.	.	
CATACO CREEK	7-7	85	2AUG79		.	.	.	.	.	.	.	
CATACO CREEK	7-7	COMP	2AUG79	3-038	<0.020	<0.020	<0.020	<0.050	<0.010	0.000	0.140	
ELK RIVER	5-0	17	2AUG79		.	.	.	.	.	.	.	
ELK RIVER	5-0	34	2AUG79		.	.	.	.	.	.	.	
ELK RIVER	5-0	51	2AUG79		.	.	.	.	.	.	.	
ELK RIVER	5-0	68	2AUG79		.	.	.	.	.	.	.	
ELK RIVER	5-0	85	2AUG79		.	.	.	.	.	.	.	
ELK RIVER	5-0	COMP	2AUG79	3-026	<0.020	<0.020	<0.020	<0.050	<0.010	0.000	0.140	
ELK RIVER	10-0	17	2AUG79		.	.	.	.	.	.	.	
ELK RIVER	10-0	34	2AUG79		.	.	.	.	.	.	.	
ELK RIVER	10-0	51	2AUG79		.	.	.	.	.	.	.	
ELK RIVER	10-0	68	2AUG79		.	.	.	.	.	.	.	
ELK RIVER	10-0	85	2AUG79		.	.	.	.	.	.	.	
ELK RIVER	10-0	COMP	2AUG79	3-028	<0.020	<0.020	<0.020	<0.050	<0.010	0.000	0.140	
ELK RIVER	15-0	17	2AUG79		.	.	.	.	.	.	.	
ELK RIVER	15-0	34	2AUG79		.	.	.	.	.	.	.	
ELK RIVER	15-0	51	2AUG79		.	.	.	.	.	.	.	
ELK RIVER	15-0	68	2AUG79		.	.	.	.	.	.	.	
ELK RIVER	15-0	85	2AUG79		.	.	.	.	.	.	.	
ELK RIVER	15-0	COMP	2AUG79	3-030	<0.020	<0.020	<0.020	<0.050	<0.010	0.000	0.140	
FLINT CREEK	6-7	17	2AUG79		.	.	.	.	.	.	.	
FLINT CREEK	6-7	34	2AUG79		.	.	.	.	.	.	.	
FLINT CREEK	6-7	51	2AUG79		.	.	.	.	.	.	.	
FLINT CREEK	6-7	68	2AUG79		.	.	.	.	.	.	.	
FLINT CREEK	6-7	85	2AUG79		.	.	.	.	.	.	.	
FLINT CREEK	6-7	COMP	2AUG79	3-032	<0.020	<0.020	<0.020	<0.050	<0.010	0.000	0.140	
FLINT CREEK	13-3	17	2AUG79		.	.	.	.	.	.	.	
FLINT CREEK	13-3	34	2AUG79		.	.	.	.	.	.	.	
FLINT CREEK	13-3	51	2AUG79		.	.	.	.	.	.	.	
FLINT CREEK	13-3	68	2AUG79		.	.	.	.	.	.	.	
FLINT CREEK	13-3	85	2AUG79		.	.	.	.	.	.	.	
FLINT RIVER	1-2	17	1AUG79		.	.	.	.	.	.	.	
FLINT RIVER	1-2	34	1AUG79		.	.	.	.	.	.	.	
FLINT RIVER	1-2	51	1AUG79		.	.	.	.	.	.	.	
FLINT RIVER	1-2	68	1AUG79		.	.	.	.	.	.	.	
FLINT RIVER	1-2	85	1AUG79		.	.	.	.	.	.	.	
FLINT RIVER	1-2	COMP	1AUG79	3-020	<0.020	<0.020	<0.020	<0.050	<0.010	0.000	0.140	
FLINT RIVER	2-5	17	1AUG79		.	.	.	.	.	.	.	
FLINT RIVER	2-5	34	1AUG79		.	.	.	.	.	.	.	
FLINT RIVER	2-5	51	1AUG79		.	.	.	.	.	.	.	

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK 3 - ASSESSMENT OF DDT CONCENTRATIONS IN SEDIMENTS CORRESPONDING TO AREA-WIDE FISHERIES STUDIES

STREAM	MILE	HORIZONTAL LOCATION	DATE	LABID	TOTAL CONCENTRATIONS OF DDT MEASURED IN SEDIMENT										---TOTAL DDT---		REMARKS
					DDT-O,P (UG/G)	DDT-P (UG/G)	DDT-O,P (UG/G)	DDT-P (UG/G)	DDT-O,P (UG/G)	DDT-P (UG/G)	DDT-O,P (UG/G)	DDT-P (UG/G)	DDT-O,P (UG/G)	DDT-P (UG/G)	MINIMUM (UG/G)	MAXIMUM (UG/G)	
TENNESSEE RIVER	265.0 COMP		30JUL79	3-005	<0.020	<0.020	<0.020	0.020	0.030	<0.050	0.030	0.030	0.030	0.080	0.170		
TENNESSEE RIVER	270.0 17		30JUL79		.	.	.	.	.	.	.	.	.	.	.	.	
TENNESSEE RIVER	270.0 34		30JUL79		.	.	.	.	.	.	.	.	.	.	.	.	
TENNESSEE RIVER	270.0 51		30JUL79		.	.	.	.	.	.	.	.	.	.	.	.	
TENNESSEE RIVER	270.0 68		30JUL79		.	.	.	.	.	.	.	.	.	.	.	.	
TENNESSEE RIVER	270.0 85		30JUL79		.	.	.	.	.	.	.	.	.	.	.	.	
TENNESSEE RIVER	270.0 COMP		30JUL79	3-006	<0.020	<0.020	0.020	0.020	0.030	<0.050	0.030	0.030	0.030	0.080	0.170		
TENNESSEE RIVER	275.0 17		30JUL79		.	.	.	.	.	.	.	.	.	.	.	.	
TENNESSEE RIVER	275.0 34		30JUL79		.	.	.	.	.	.	.	.	.	.	.	.	
TENNESSEE RIVER	275.0 51		30JUL79		.	.	.	.	.	.	.	.	.	.	.	.	
TENNESSEE RIVER	275.0 68		30JUL79		.	.	.	.	.	.	.	.	.	.	.	.	
TENNESSEE RIVER	275.0 85		30JUL79		.	.	.	.	.	.	.	.	.	.	.	.	
TENNESSEE RIVER	275.0 COMP		30JUL79	3-008	<0.020	<0.020	0.020	0.020	0.040	<0.050	0.030	0.030	0.030	0.090	0.180		
TENNESSEE RIVER	280.0 17		30JUL79		.	.	.	.	.	.	.	.	.	.	.	.	
TENNESSEE RIVER	280.0 34		30JUL79		.	.	.	.	.	.	.	.	.	.	.	.	
TENNESSEE RIVER	280.0 51		30JUL79		.	.	.	.	.	.	.	.	.	.	.	.	
TENNESSEE RIVER	280.0 68		30JUL79		.	.	.	.	.	.	.	.	.	.	.	.	
TENNESSEE RIVER	280.0 85		30JUL79		.	.	.	.	.	.	.	.	.	.	.	.	
TENNESSEE RIVER	280.0 COMP		30JUL79	3-009	<0.020	<0.020	0.020	0.030	0.040	<0.050	0.030	0.030	0.030	0.100	0.190		
TENNESSEE RIVER	285.0 17		31JUL79		.	.	.	.	.	.	.	.	.	.	.	.	
TENNESSEE RIVER	285.0 34		31JUL79		.	.	.	.	.	.	.	.	.	.	.	.	
TENNESSEE RIVER	285.0 51		31JUL79		.	.	.	.	.	.	.	.	.	.	.	.	
TENNESSEE RIVER	285.0 68		31JUL79		.	.	.	.	.	.	.	.	.	.	.	.	
TENNESSEE RIVER	285.0 85		31JUL79		.	.	.	.	.	.	.	.	.	.	.	.	
TENNESSEE RIVER	285.0 COMP		31JUL79	3-011	<0.020	<0.020	0.020	0.030	0.040	<0.050	0.030	0.030	0.030	0.100	0.190		
TENNESSEE RIVER	290.0 17		31JUL79		.	.	.	.	.	.	.	.	.	.	.	.	
TENNESSEE RIVER	290.0 34		31JUL79		.	.	.	.	.	.	.	.	.	.	.	.	
TENNESSEE RIVER	290.0 51		31JUL79		.	.	.	.	.	.	.	.	.	.	.	.	
TENNESSEE RIVER	290.0 68		31JUL79		.	.	.	.	.	.	.	.	.	.	.	.	
TENNESSEE RIVER	290.0 85		31JUL79		.	.	.	.	.	.	.	.	.	.	.	.	
TENNESSEE RIVER	290.0 COMP		31JUL79	3-012	<0.020	<0.020	0.020	0.020	0.030	<0.050	0.020	0.020	0.020	0.070	0.160		
TENNESSEE RIVER	295.0 17		31JUL79		.	.	.	.	.	.	.	.	.	.	.	.	
TENNESSEE RIVER	295.0 34		31JUL79		.	.	.	.	.	.	.	.	.	.	.	.	
TENNESSEE RIVER	295.0 51		31JUL79		.	.	.	.	.	.	.	.	.	.	.	.	
TENNESSEE RIVER	295.0 68		31JUL79		.	.	.	.	.	.	.	.	.	.	.	.	
TENNESSEE RIVER	295.0 85		31JUL79		.	.	.	.	.	.	.	.	.	.	.	.	
TENNESSEE RIVER	295.0 COMP		31JUL79	3-013	<0.020	<0.020	0.020	0.030	0.040	<0.050	0.020	0.020	0.020	0.090	0.180		
TENNESSEE RIVER	300.0 17		31JUL79		.	.	.	.	.	.	.	.	.	.	.	.	
TENNESSEE RIVER	300.0 34		31JUL79		.	.	.	.	.	.	.	.	.	.	.	.	
TENNESSEE RIVER	300.0 51		31JUL79		.	.	.	.	.	.	.	.	.	.	.	.	
TENNESSEE RIVER	300.0 68		31JUL79		.	.	.	.	.	.	.	.	.	.	.	.	
TENNESSEE RIVER	300.0 85		31JUL79		.	.	.	.	.	.	.	.	.	.	.	.	
TENNESSEE RIVER	300.0 COMP		31JUL79	3-014	<0.020	<0.020	0.020	0.030	0.040	<0.050	0.020	0.020	0.020	0.090	0.180		
TENNESSEE RIVER	320.8 COMP		14DEC79	3M-07	<0.020	<0.020	<0.020	<0.020	<0.020	<0.010	<0.010	<0.010	<0.010	0.000	0.100		
TENNESSEE RIVER	325.0 17		1AUG79		.	.	.	.	.	.	.	.	.	.	.	.	
TENNESSEE RIVER	325.0 34		1AUG79		.	.	.	.	.	.	.	.	.	.	.	.	
TENNESSEE RIVER	325.0 51		1AUG79		.	.	.	.	.	.	.	.	.	.	.	.	
TENNESSEE RIVER	325.0 68		1AUG79		.	.	.	.	.	.	.	.	.	.	.	.	
TENNESSEE RIVER	325.0 85		1AUG79		.	.	.	.	.	.	.	.	.	.	.	.	
TENNESSEE RIVER	325.0 COMP		1AUG79	3-023	<0.020	<0.020	<0.020	<0.020	<0.020	<0.050	<0.010	<0.010	<0.010	0.000	0.140		

NO SAMPLE
NO SAMPLE
NO SAMPLE

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
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TASK 3 - ASSESSMENT OF DDT CONCENTRATIONS IN SEDIMENTS CORRESPONDING TO AREA-WIDE FISHERIES STUDIES

STREAM	MILE	HORIZONTAL LOCATION	DATE	LABID	TOTAL CONCENTRATIONS OF DDT MEASURED IN SEDIMENT				---TOTAL DDT---		REMARKS
					DDT-O,P (UG/G)	DDT-P,P (UG/G)	DDO-O,P (UG/G)	DDP-O,P (UG/G)	MINIMUM (UG/G)	MAXIMUM (UG/G)	
TENNESSEE RIVER	350.0	17	2AUG79		.	.	.	.	.	.	
TENNESSEE RIVER	350.0	34	2AUG79		.	.	.	.	.	.	
TENNESSEE RIVER	350.0	51	2AUG79		.	.	.	.	.	.	
TENNESSEE RIVER	350.0	68	2AUG79		.	.	.	.	.	.	
TENNESSEE RIVER	350.0	85	2AUG79		.	.	.	.	.	.	
TENNESSEE RIVER	350.0	COMP	2AUG79	3-036	<0.020	<0.020	<0.020	<0.050	<0.010	0.000	0.140
TENNESSEE RIVER	375.0	17	2AUG79		.	.	.	.	.	.	
TENNESSEE RIVER	375.0	34	2AUG79		.	.	.	.	.	.	
TENNESSEE RIVER	375.0	51	2AUG79		.	.	.	.	.	.	
TENNESSEE RIVER	375.0	68	2AUG79		.	.	.	.	.	.	
TENNESSEE RIVER	375.0	85	2AUG79		.	.	.	.	.	.	
TENNESSEE RIVER	375.0	COMP	2AUG79	3-040	<0.020	<0.020	<0.020	<0.050	<0.010	0.000	0.140

FOOTNOTES:

- A. HORIZONTAL LOCATION OF INDIVIDUAL SAMPLES REFERS TO PERCENT DISTANCE FROM THE LEFT BANK LOOKING DOWNSTREAM.
- B. ABSENCE OF DATA FOR INDIVIDUAL SAMPLES INDICATES ANALYSES WERE PERFORMED ON THE COMPOSITE OF THE INDIVIDUAL SAMPLES.
- C. MINIMUM TOTAL DDT CALCULATED BY SETTING ALL LESS THAN VALUES TO ZERO.
- D. MAXIMUM TOTAL DDT CALCULATED BY SETTING ALL LESS THAN VALUES TO THEIR ABSOLUTE VALUE.

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
MUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK 3 - ASSESSMENT OF DDT CONCENTRATIONS IN SEDIMENTS CORRESPONDING TO AREA-WIDE FISHERIES STUDIES

MILE	HLOC	DATE	LASTD	%	MOISTURE	VOL-SOL	SEDIMENT SAMPLES - PHYSICAL MEASUREMENT										REMARKS	
							2.0	0.5	0.125	0.063	0.031	0.016	0.008	0.004	0.002	0.001		0.0005
-----CATACOC CREEK -----																		
4	COMP	2AUG79	3-042	27.73	1.66	100.00	98.54	25.74	22.46	22.23	20.88	18.86	15.72	13.02	10.78	8.98		
8	COMP	2AUG79	3-038	39.82	4.10	100.00	99.23	61.48	53.40	53.40	50.19	42.72	33.44	27.76	22.42	18.15		
-----ELK RIVER -----																		
5	COMP	2AUG79	3-026	45.74	5.34	99.54	98.16	93.19	90.43	90.43	81.38	66.01	51.54	41.59	33.45	27.12		
10	COMP	2AUG79	3-028	43.14	4.69	100.00	99.56	89.39	86.06	86.06	84.33	61.10	47.33	38.72	30.98	24.09		
15	COMP	2AUG79	3-030	47.38	4.87	99.52	97.52	93.14	90.67	89.76	83.41	66.18	50.77	40.80	33.54	27.20		
-----FLINT CREEK -----																		
7	COMP	2AUG79	3-032	34.10	4.86	99.45	98.82	84.71	74.94	73.44	66.69	56.95	47.21	38.96	32.22	26.22		
-----FLINT RIVER -----																		
1	COMP	1AUG79	3-020	28.83	2.42	96.47	83.08	31.75	30.60	30.60	29.68	26.92	22.03	17.44	13.77	10.71		
3	COMP	1AUG79	3-022	49.31	5.74	100.00	99.41	89.48	88.10	88.10	84.57	73.12	56.38	44.93	36.12	27.31		
-----LIMESTONE CREEK -----																		
2	COMP	2AUG79	3-034	41.93	5.21	99.28	96.66	89.43	86.36	84.63	82.04	71.67	58.72	47.49	38.86	30.22		
2	COMP	2AUG79	3-034	45.71	5.62	99.46	96.80	89.20	85.99	85.99	83.41	73.95	60.19	49.01	40.41	32.67	P.S.	
3	COMP	2AUG79	3-044	39.61	5.13	96.75	90.89	78.93	74.86	74.11	68.87	57.64	44.16	35.93	29.19	23.95		
-----PAINT ROCK RIVER -----																		
2	COMP	1AUG79	3-016	41.04	3.87	100.00	98.47	68.50	63.75	63.11	61.20	54.18	44.62	43.98	32.51	26.13		
4	COMP	1AUG79	3-018	21.65	0.89	99.61	61.45	14.81	12.20	11.95	10.98	9.15	7.19	5.73	4.63	3.66		
-----SPRING CREEK -----																		
1	COMP	30JUL79	3-001	49.75	4.62	99.70	98.59	74.65	68.92	68.23	62.02	53.75	44.10	37.21	31.01	24.81		
2	COMP	30JUL79	3-003	64.11	7.53	100.00	100.00	99.86	99.57	99.57	97.57	83.63	70.69	58.74	47.79	37.83		
-----TENNESSEE RIVER -----																		
260	COMP	3AUG79	3-039	64.41	8.40	100.00	99.72	99.58	99.58	99.00	99.00	95.75	85.00	74.50	63.00	50.00		
265	COMP	30JUL79	3-005	58.84	7.56	100.00	100.00	99.64	99.40	99.40	97.41	91.44	77.53	59.64	44.73	31.80		
270	COMP	30JUL79	3-006	58.31	7.26	100.00	99.88	99.53	99.06	99.06	98.06	92.12	84.20	73.30	63.39	53.49		
275	COMP	30JUL79	3-008	63.86	7.22	100.00	99.86	99.04	98.50	98.50	98.50	95.54	87.66	73.87	63.04	53.19		
280	COMP	30JUL79	3-009	55.48	6.46	100.00	94.15	93.70	90.66	90.66	87.94	80.68	70.71	59.83	50.76	41.70		
285	COMP	31JUL79	3-011	61.56	7.98	100.00	99.87	99.48	99.09	98.09	96.11	88.19	77.29	66.39	56.48	46.57		
290	COMP	31JUL79	3-012	46.77	5.45	100.00	99.72	87.29	75.23	73.72	69.96	63.19	54.91	45.13	38.36	30.09		
295	COMP	31JUL79	3-013	41.02	3.94	100.00	98.61	69.04	56.17	54.48	49.42	42.68	36.51	32.01	26.96	21.90		
300	COMP	31JUL79	3-014	35.41	3.71	100.00	92.36	60.92	53.74	52.66	48.90	43.52	36.54	31.16	26.33	21.49		
300	COMP	31JUL79	3-014	35.34	3.70	100.00	88.93	58.26	51.19	51.19	46.58	40.44	34.29	28.66	24.05	18.94	P.S.	
321	COMP	1AUG79	3M-07	18.62	3.86	60.56	45.95	14.74	11.29	10.84	9.77	8.69	7.85	6.66	5.19	3.61		
325	COMP	1AUG79	3-023	35.54	6.53	100.00	99.43	57.74	51.06	50.03	46.97	42.37	34.21	26.55	21.44	16.33		
350	COMP	2AUG79	3-036	49.06	3.52	100.00	99.51	64.43	57.44	56.86	55.71	51.12	45.37	39.05	32.74	25.84		
375	COMP	2AUG79	3-040	51.00	6.65	99.77	98.63	96.92	84.32	84.59	75.09	66.46	56.97	49.20	41.43	32.80		

FOOTNOTES:

A. HORIZONTAL LOCATION (HLOC) OF INDIVIDUAL SAMPLES REFERS TO PERCENT DISTANCE FROM THE LEFT BANK LOOKING DOWNSTREAM.

B. ABSENCE OF DATA FOR INDIVIDUAL SAMPLES INDICATES ANALYSES WERE PERFORMED ON THE COMPOSITE (COMP) OF THE INDIVIDUAL SAMPLES.

C. THE ABBREVIATION (P.S.) REFERS TO A PRECISION SAMPLE.

ENGINEERING AND ENVIRONMENTAL STUDY
OF DDT CONTAMINATION OF HUNTSVILLE
SPRING BRANCH, INDIAN CREEK, AND
ADJACENT LANDS AND WATERS,
WHEELER RESERVOIR, ALABAMA

TASK 4

ASSESSMENTS OF DDT CONCENTRATIONS
AND OTHER CONTAMINANTS IN SEDIMENTS
IN REDSTONE ARSENAL VICINITY

Tennessee Valley Authority
Office of Natural Resources

August 1980

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PREFACE

This document was prepared in support of the Engineering and Environmental Study of DDT contamination of Huntsville Spring Branch, Indian Creek, and Adjacent Lands and Waters, Wheeler Reservoir, Alabama, for the U.S. Corps of Engineers.

This document contains information produced in fulfillment of an interagency agreement between the U.S. Corps of Engineers and the Tennessee Valley Authority (TVA Contract No. TV-52305A).

CONTENTS

Worktask Description	Page 1
Sampling Location Maps	Appendix A
Transect Cross-sections and Procedures	Appendix B
Raw Data Tabulations	Appendix C

TASK 4

WORKTASK DESCRIPTION

TASK 4

ASSESSMENTS OF DDT CONCENTRATIONS AND OTHER CONTAMINANTS IN SEDIMENTS IN REDSTONE ARSENAL VICINITY

1.0 Purpose

To better define the areal extent of the DDT contamination and to define the physical characteristics of the sediment as they may relate to remedial measures and to evaluate the potential for the occurrence of other pollutants in the bottom sediment.

2.0 Scope

Sediment samples were collected from Indian Creek (IC) and Huntsville Spring Branch (HSB). This included sampling in the channel, overbank and swampy areas, and on the floodplain.

3.0 Procedure

3.1 Types of Samples

Sediment and water.

3.2 Sample Locations

3.2.1 Cross sections are located at the following nominal locations:

Indian Creek Miles 0.0, 1.0, 2.0, 3.0, 4.0, and 5.0 and Huntsville Spring Branch Miles 0.0, 1.0, 2.0, 3.0, 4.0, and 5.0, where Huntsville Spring Branch enters Indian Creek at mile 5.4, and where the DDT waste ditch (old ditch) enters HSB at mile 5.37 (see sampling location maps in Appendix A).

3.2.2 At each sampling transect a detailed and complete probe sounding was made of sediment depth and a cross section drawn to scale for the record (see Appendix B). The horizontal location of core samples was selected in the field from the soundings to adequately

represent the sediment deposit. Core samples were collected only in locations where sediment was found. Multiple horizontal locations were sampled to keep distances between sampling locations to approximately 50 feet.

3.2.3 Additional transects were sampled in swampy areas at HSB miles 1.7, 3.5, 4.2, 4.5, 5.6, and approximately midway on the horseshoe-shaped "loop" opposite the DDT waste ditch. Sampling locations (cores) at the transects at HSB miles 1.7 and 3.5 were taken at approximately 100-foot intervals. At HSB miles 4.2 and 4.5, approximate 200-foot intervals were used. HSB mile 5.6 and the "loop" transect were at 50-foot intervals.

3.2.4 In addition to the transects described above, eight miscellaneous sampling locations were located in normally inundated locations: Barren Fork Creek (approximate mile 1.2), the slough on the left bank adjacent to IC mile 1.0, the slough on the left bank adjacent to IC mile 2.0, and five locations selected in the field in the vicinity of the mouth of the present and old DDT waste ditch. The purpose of the five locations selected in the field was to locate "hot spots," such as old "DDT bars."

3.2.5 Eleven additional sampling locations were established in flood-plain areas not normally inundated.

3.2.6 At the beginning of the field work, an anchored marker buoy was placed at each cross section and sampling location. Following sample collection, an aerial inspection was made to verify and document actual sampling locations.

3.3 Field Collection

- 3.3.1 At each sampling location a minimum of three cores were collected to help ensure that samples are representative. Cores were collected approximately three feet apart.
- 3.3.2 All core samples were subdivided into separate and distinct horizontal fractions--the top 6 inches, the second 6 inches, the second foot, and anything greater than the second foot. One quart of sediment was provided for each of the separate core portions. (To obtain the required volume for the individual samples, composites from more than the minimum of three cores may have been required.) The sediments from each corresponding portion of the multiple cores composited were mixed well to ensure a representative sample was collected. This compositing was done in the field.
- 3.3.3 A 2-gallon water sample was collected at each sampling location where elutriate analyses were performed. See Section 3.5.4 for the identification of these locations. Where applicable, these samples were collected from 1 foot off the bottom. In shallow and swampy areas with water depths six inches or greater, the 2-gallon water sample was collected by the best means available.
- 3.3.5 At those core sampling locations where the collection of water samples was not feasible or appropriate, water for the elutriate tests were collected at a point on the creek nearest the core sampling location.

3.4 Sample Handling

- 3.4.1 Sediment samples were collected in 1-quart glass containers (mason jars) specially cleaned for pesticide analysis. Container lids were lined with aluminum foil.

3.4.2 Water samples for elutriate tests were collected in specially prepared glass bottles. A minimum of two gallons were required per sample.

3.4.3 All sediment and water samples were placed on ice and kept at 4°C through transportation to the laboratory.

3.5 Sample Analysis

3.5.1 From the individual samples collected at each of the transects identified in Sections 3.2.1 and 3.2.3, composites were made in the laboratory of the 0-6 inch fractions, 6-12 inch fractions, 12-24 inch fractions, etc. A sufficient quantity of each individual sample was retained for possible later separate analysis. From these composites, analyses were made for particle size distribution (>2.0 mm to <0.25 mm), % moisture, % volatile solids, and DDTR. Additionally, separate analyses were initially made on 24 individual samples from the transect at HSB mile 4.2. These separate samples were taken from each of the four vertical locations at six equally spaced sampling locations. Additional DDTR analysis was performed on individual or differently composited samples. These additional samples are listed in the attached table 4-2.

3.5.2 For each of the eight additional stations (Section 3.2.4) below the 556-foot elevation, one laboratory depth-integrated composite was made. From these composites, analyses were made of particle size distribution, % moisture, % volatile solids, and DDTR.

3.5.3 For each of the eleven floodplain samples identified in Section 3.2.5, the 0-6 inch fraction was initially analyzed for particle size distribution, % moisture, % volatile solids, and DDTR. The remaining fractions were retained for possible later analysis.

3.5.4 Initially, 15 elutriate analyses were performed on the sediments collected from the locations described at the following points; ICM 1 and 3; HSBM 0, 2, 3, 4.2, 4.5, 5.0, and 5.6; and the five locations in the vicinity of the old waste ditch as identified in Section 3.2.4. The elutriate samples consisted of a composite of the individual sediment samples collected at the cross section or sampling location.

3.5.5 Laboratory analyses associated with the elutriate tests were DDT, Hg, Cd, Cu, Zn, Ni, Be, and As. These analyses were performed on the sediment and water samples collected for elutriate tests as well as on the elutriate water resulting from the tests.

3.5.6 In addition to the elutriate analysis for the samples from ICM 3.0 and HSBM 3.0, EPA's priority pollutants were analyzed. For these analyses, the samples at each mile point consisted of a composite of the top 6-inch sediment sample across each stream mile point. The priority pollutant scans were made on the overlying water, the composited sediment sample, and the elutriate water. The analysis of the priority pollutants was a qualitative scan with identification of the major peaks on the chromatograms.

3.5.7 All analyses were performed by procedures described in the Quality Assurance document.

3.6 Data Handling and Reporting

3.6.1 All data are summarized in a tabular form and presented in Appendix C. This table includes: Sample identification number, location, date collected, field measurements, and each of six forms of DDT and total residue concentrations.

TASK 4 - ASSESSMENTS OF DDT CONCENTRATIONS AND
OTHER CONTAMINANTS IN SEDIMENTS IN REDSTONE ARSENAL VICINITY
TABLE 4-1
SEDIMENT SAMPLING LOCATIONS

Core Sample Number and Distance (feet) Taken From Left Bank																			
Mile	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
Indian Creek	0.0	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
"	1.0	37.5	87.5	137.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
"	2.0	55	100	160	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
"	3.0	25	75	125	175	-	-	-	-	-	-	-	-	-	-	-	-	-	-
"	4.0	50	130	180	230	280	-	-	-	-	-	-	-	-	-	-	-	-	-
"	5.0	130	250	300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H-ville Spg. Br.	0.0	37	75	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
"	1.0	80	180	330	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
"	1.7	290	390	490	590	815	915	1015	1075	-	-	-	-	-	-	-	-	-	-
"	2.0	24	75	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
"	3.0	65	175	300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
"	3.5	50	300	400	500	600	700	830	930	1030	-	-	-	-	-	-	-	-	-
"	4.0	277	388	595	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
"	4.2	248	448	648	848	1048	1253	1453	1653	1853	2032	2232	2432	2632	2832	3032	3232	3462	
"	4.5	0	200	400	600	800	1000	1200	1400	1600	1821	1800	1875	2100	2300	-	-	-	-
"	5.0	82	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
"	5.6	68	118	166	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H-ville Spg. Br. Loop	28	100	143	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 4-2: Additional Individual and Composited Sample Analyzed
for DDTR

Sample #	Location	Core Sample Location Number from Left Bank	Core Fraction	Notes
DDT 4-141	Huntsville Spring Branch 1.0	1	0-6"	
DDT 4-142	" " " "	1	6-12"	
DDT 4-143	" " " "	1	12-24"	
DDT 4-181	" " " "	3	0-6"	
DDT 4-182	" " " "	3	6-12"	
DDT 4-183	" " " "	3	12-24"	
DDT 4-184	" " " "	3	>24"	
DDT 4-144	Huntsville Spring Branch 1.7	1	0-6"	
DDT 4-145	" " " "	1	6-12"	
DDT 4-146	" " " "	2,3&4	0-6"	Composite
DDT 4-147	" " " "	2,3&4	6-12"	"
DDT 4-148	" " " "	5&6	0-6"	"
DDT 4-149	" " " "	5&6	6-12"	"
DDT 4-150	" " " "	5&6	12-24"	"
DDT 4-151	" " " "	7	0-6"	
DDT 4-152	" " " "	7	6-12"	
DDT 4-153	" " " "	7	12-24"	
DDT 4-154	" " " "	8	0-6"	
DDT 4-155	" " " "	8	6-12"	
DDT 4-156	" " " "	8	12-24"	
DDT 4-157	" " " "	8	>24"	
DDT 4-158	Huntsville Spring Branch 3.0	1	0-6"	
DDT 4-159	" " " "	1	6-12"	
DDT 4-160	" " " "	1	12-24"	
DDT 4-161	" " " "	1	>24"	
DDT 4-162	" " " "	3	0-6"	
DDT 4-163	" " " "	3	6-12"	
DDT 4-164	" " " "	3	12-24"	
DDT 4-165	Huntsville Spring Branch 3.5	1	0-6"	
DDT 4-166	" " " "	2	0-6"	
DDT 4-167	" " " "	2	6-12"	
DDT 4-168	" " " "	3&4	0-6"	Composite
DDT 4-169	" " " "	3&4	6-12"	"
DDT 4-170	" " " "	5&6	0-6"	"
DDT 4-171	" " " "	5&6	6-12"	"
DDT 4-172	" " " "	7&8	0-6"	"
DDT 4-173	" " " "	7&8	6-12"	"
DDT 4-174	" " " "	7&8	12-24"	"
DDT 4-175	Huntsville Spring Branch 4.0	1	0-6"	
DDT 4-176	" " " "	1	6-12"	
DDT 4-177	" " " "	2	0-6"	
DDT 4-178	" " " "	2	6-12"	
DDT 4-179	" " " "	2	12-24"	

<u>Sample #</u>	<u>Location</u>	<u>Core Sample Location Number from Left Bank</u>	<u>Core Fraction</u>	<u>Notes</u>
DDT 4-180	Huntsville Spring Branch 3.5	2	>24"	
DDT 4-185	" " " "	3	0-6"	
DDT 4-186	" " " "	3	6-12"	
DDT 4-187	" " " "	3	12-24"	
DDT 4-188	Huntsville Spring Branch 4.5	1	0-6"	
DDT 4-189	" " " "	2	0-6"	
DDT 4-190	" " " "	2	6-12"	
DDT 4-191	" " " "	3	0-6"	
DDT 4-192	" " " "	3	6-12"	
DDT 4-193	" " " "	3	12-24"	
DDT 4-194	" " " "	4,5&6	0-6"	Composite
DDT 4-195	" " " "	4,5&6	6-12"	"
DDT 4-196	" " " "	4,5&6	12-24"	"
DDT 4-197	" " " "	7&8	0-6"	"
DDT 4-198	" " " "	7&8	6-12"	"
DDT 4-199	" " " "	7&8	12-24"	"
DDT 4-200	" " " "	9	0-6"	
DDT 4-201	" " " "	10	0-6"	
DDT 4-202	" " " "	10	6-12"	
DDT 4-203	" " " "	10	12-24"	
DDT 4-204	" " " "	11	0-6"	
DDT 4-205	" " " "	11	6-12"	
DDT 4-206	" " " "	11	12-24"	
DDT 4-207	" " " "	12&13	0-6"	"
DDT 4-208	" " " "	12&13	6-12"	"
DDT 4-209	" " " "	12&13	12-24"	"
DDT 4-210	" " " "	12	>24"	
DDT 4-211	" " " "	14	0-6"	
DDT 4-212	" " " "	14	6-12"	
DDT 4-213	" " " "	14	12-24"	
DDT 4-214	Huntsville Spring Branch 4.2	12	0-6"	
DDT 4-215	" " " "	12	6-12"	
DDT 4-216	" " " "	13	0-6"	
DDT 4-217	" " " "	13	6-12"	
DDT 4-220	" " " "	16	0-6"	
DDT 4-221	" " " "	16	6-12"	
DDT 4-218	" " " "	16	12-24"	
DDT 4-219	" " " "	16	>24"	
DDT 4-222	" " " "	17	0-6"	
DDT 4-223	" " " "	17	6-12"	
DDT 4-224	" " " "	17	12-24"	
DDT 4-225	" " " "	18	0-6"	
DDT 4-226	" " " "	18	6-12"	
DDT 4-227	" " " "	18	12-24"	

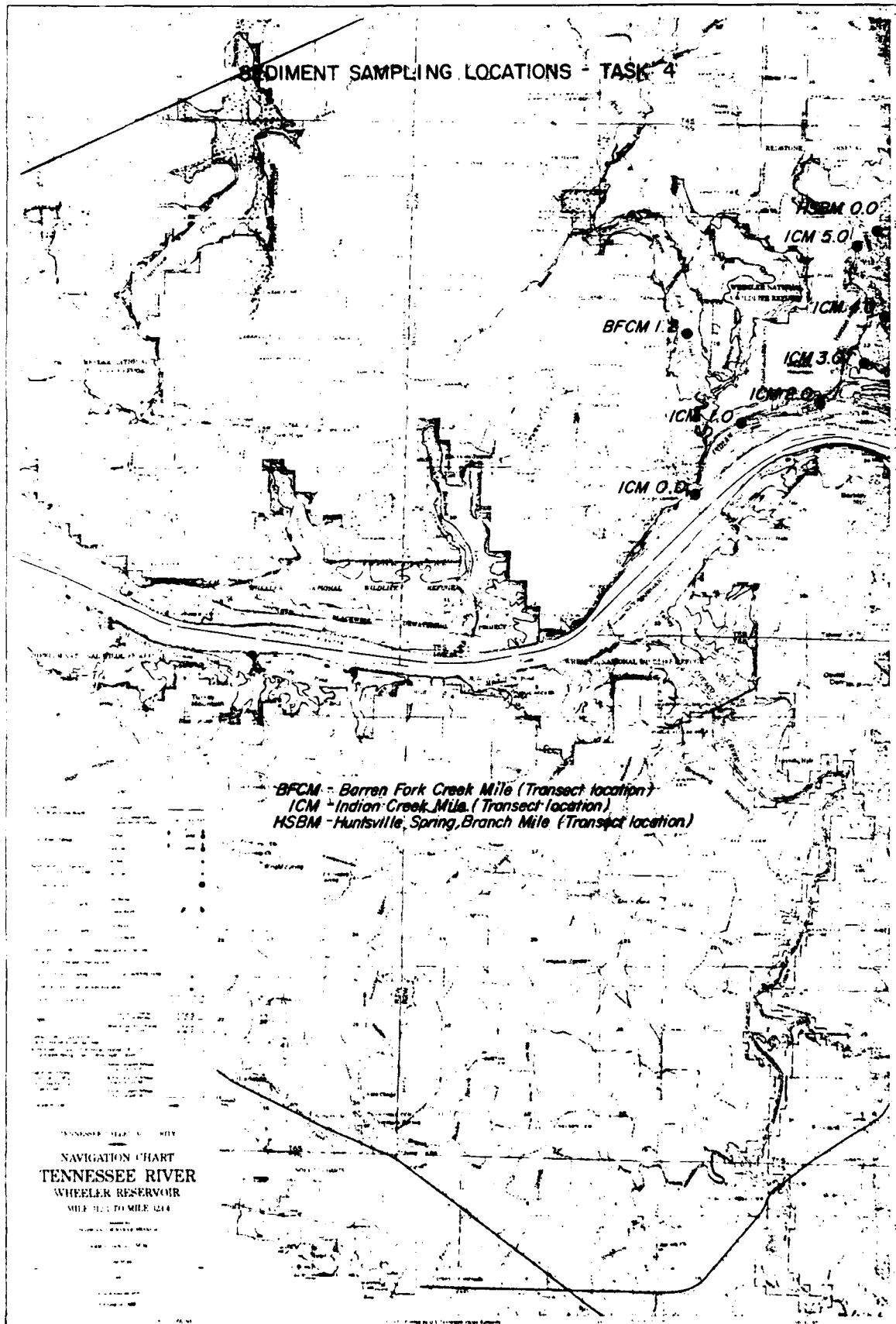
Sample #	Location	Core Sample Location Number from Left Bank	Core Fraction	Notes
DDT 4-228	Huntsville Spring Branch 5.0	1	0-6"	
DDT 4-229	" " " "	1	6-12"	
DDT 4-230	" " " "	1	12-24"	
DDT 4-231	" " " "	2	0-6"	
DDT 4-232	" " " "	2	6-12"	
DDT 4-233	" " " "	2	12-24"	
DDT 4-234	Huntsville Spring Branch 5.35	1	6-12"	
DDT 4-235	Huntsville Spring Branch 5.38	1	0-6"	
DDT 4-236	" " " "	1	12-24"	
DDT 4-237	" " " "	1	>24"	
DDT 4-238	Huntsville Spring Branch 5.41	1	0-6"	
DDT 4-239	" " " "	1	12-24"	
DDT 4-240	" " " "	1	>24"	

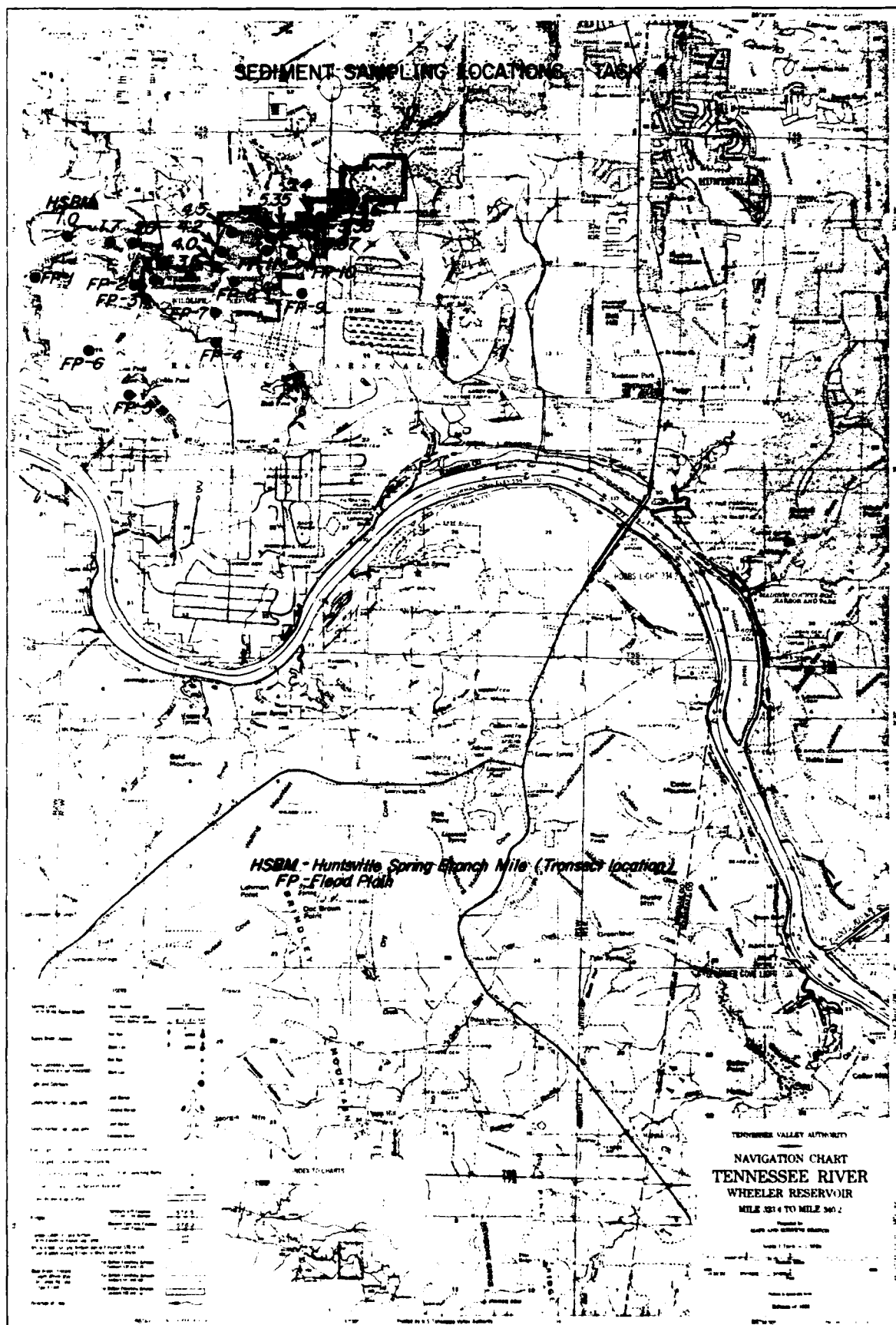
APPENDIX A

TASK 4

SAMPLING LOCATION MAPS

SEDIMENT SAMPLING LOCATIONS - TASK 4

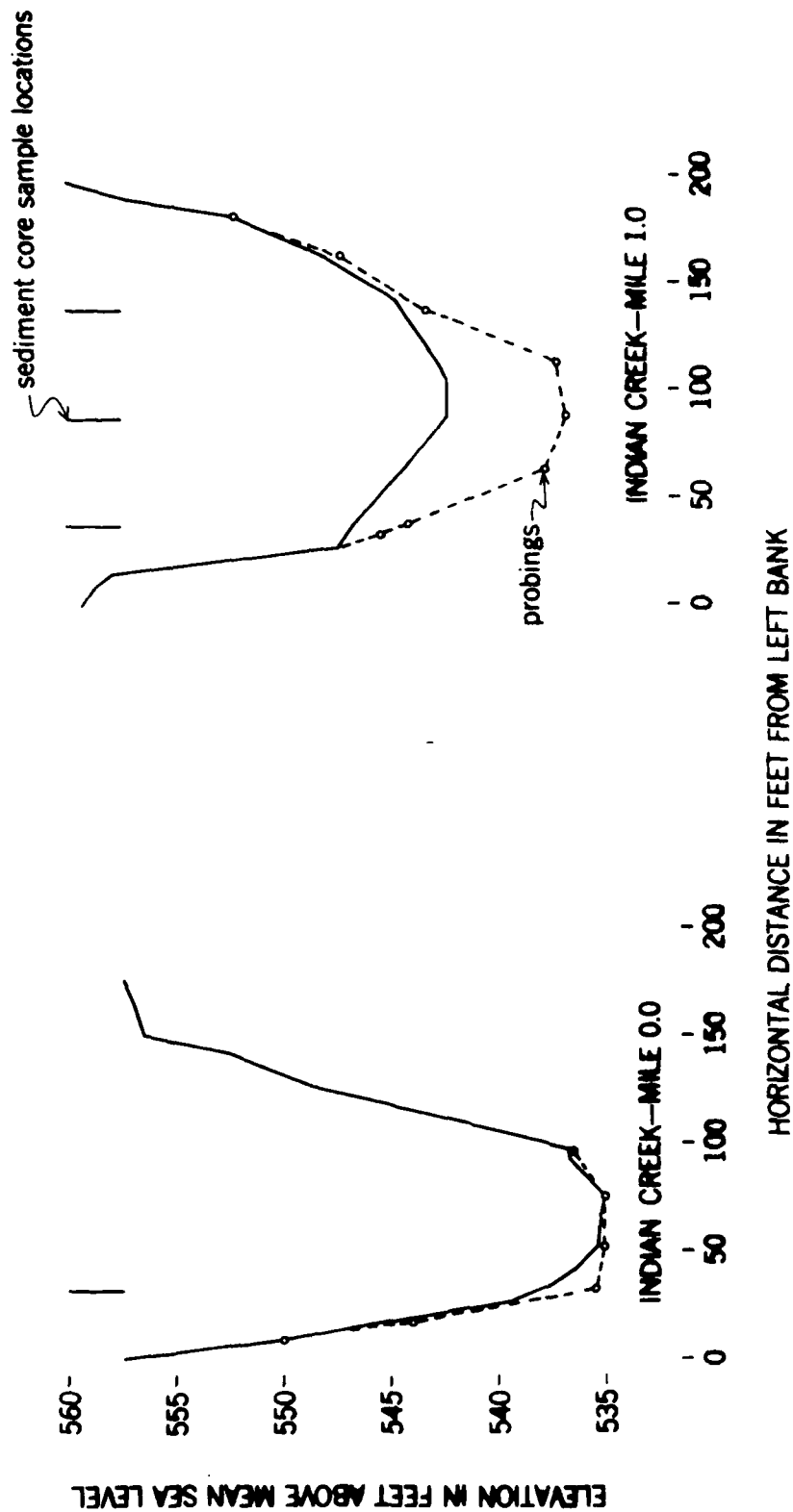




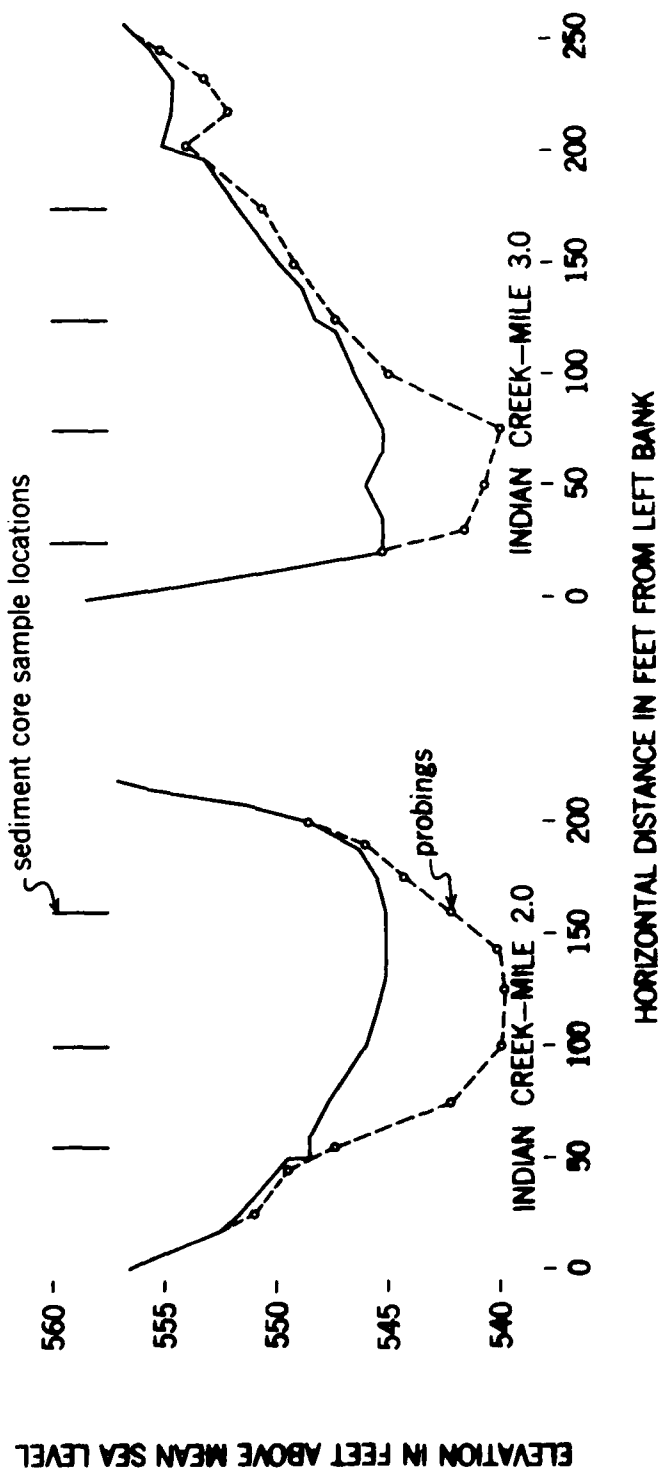
APPENDIX B

TASK 4

TRANSECT CROSS-SECTIONS AND PROCEDURES

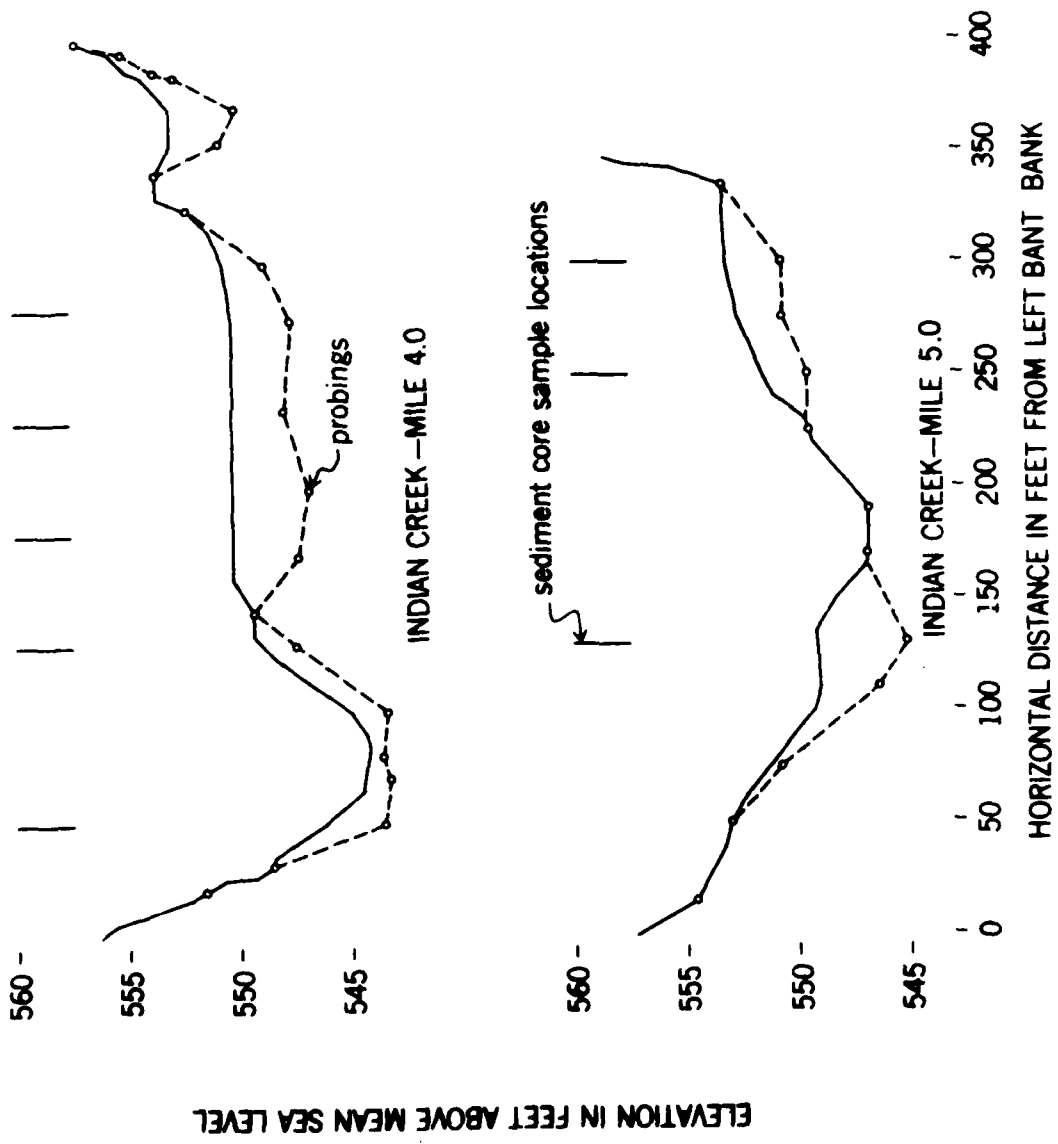


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 SEDIMENT INVESTIGATIONS
 AUGUST 1979
 Sheet 1 of 10



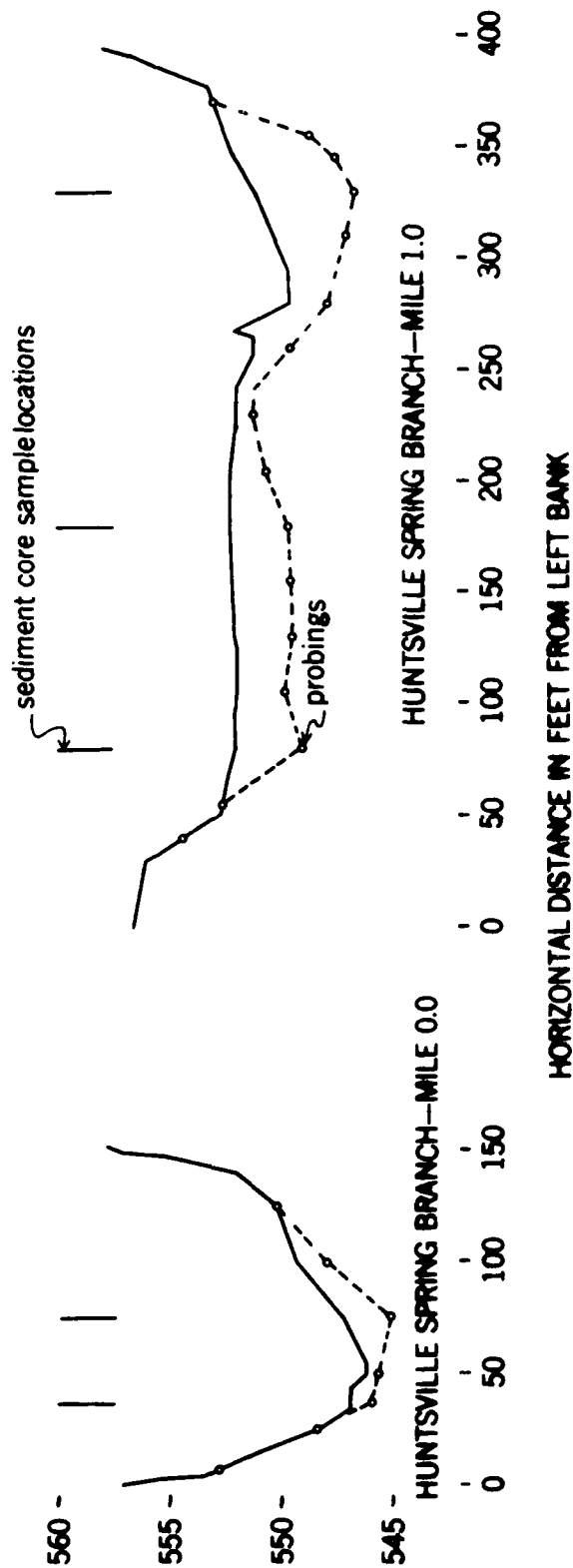
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DDT STUDY IN VICINITY OF REDSTONE ARSENAL
SEDIMENT INVESTIGATIONS

AUGUST 1979
Sheet 2 of 10

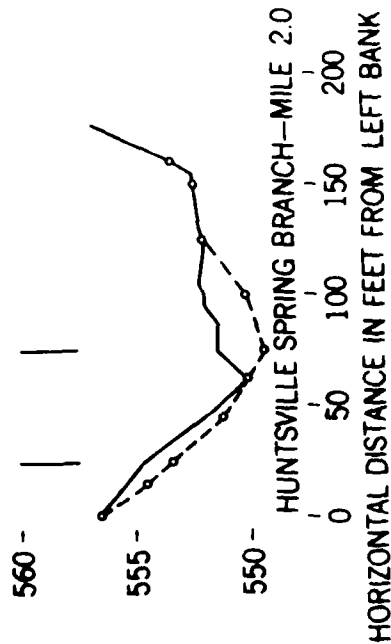
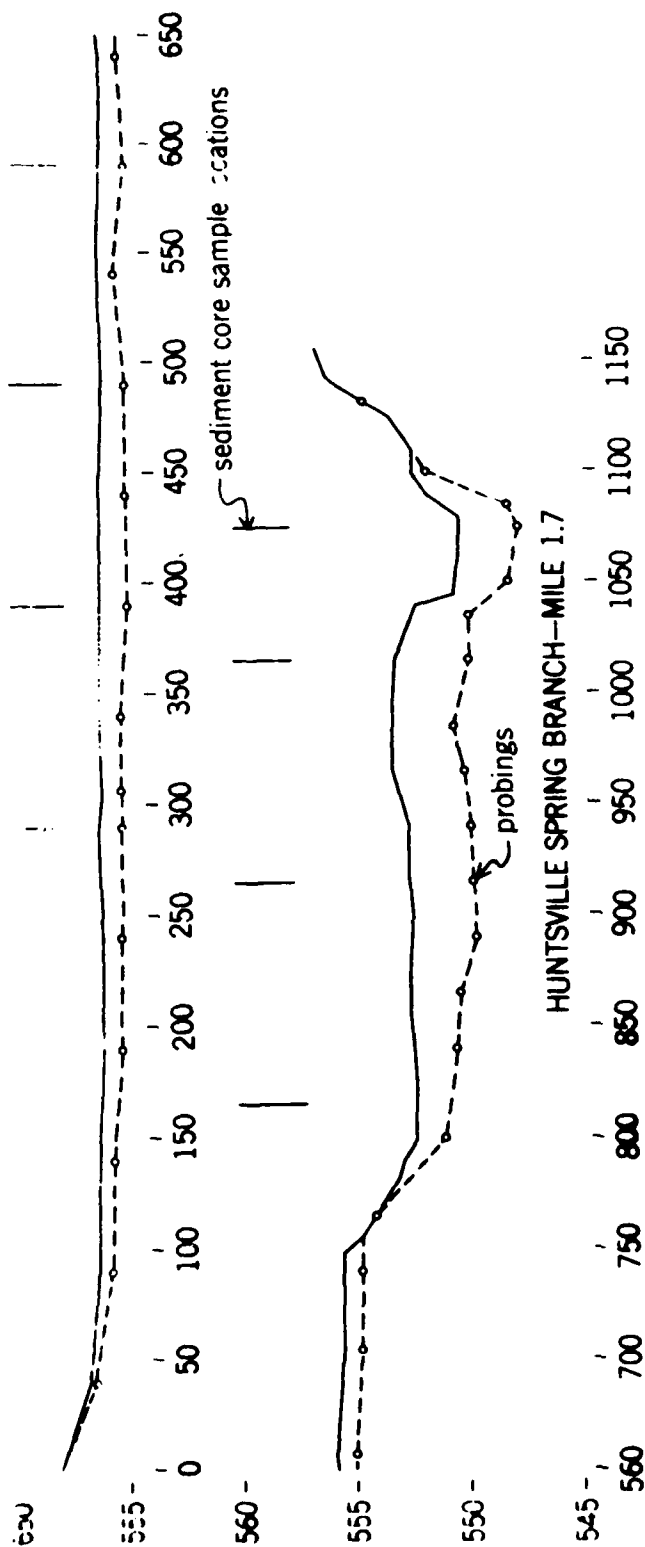


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 SEDIMENT INVESTIGATIONS
 AUGUST 1979
 Sheet 3 of 10

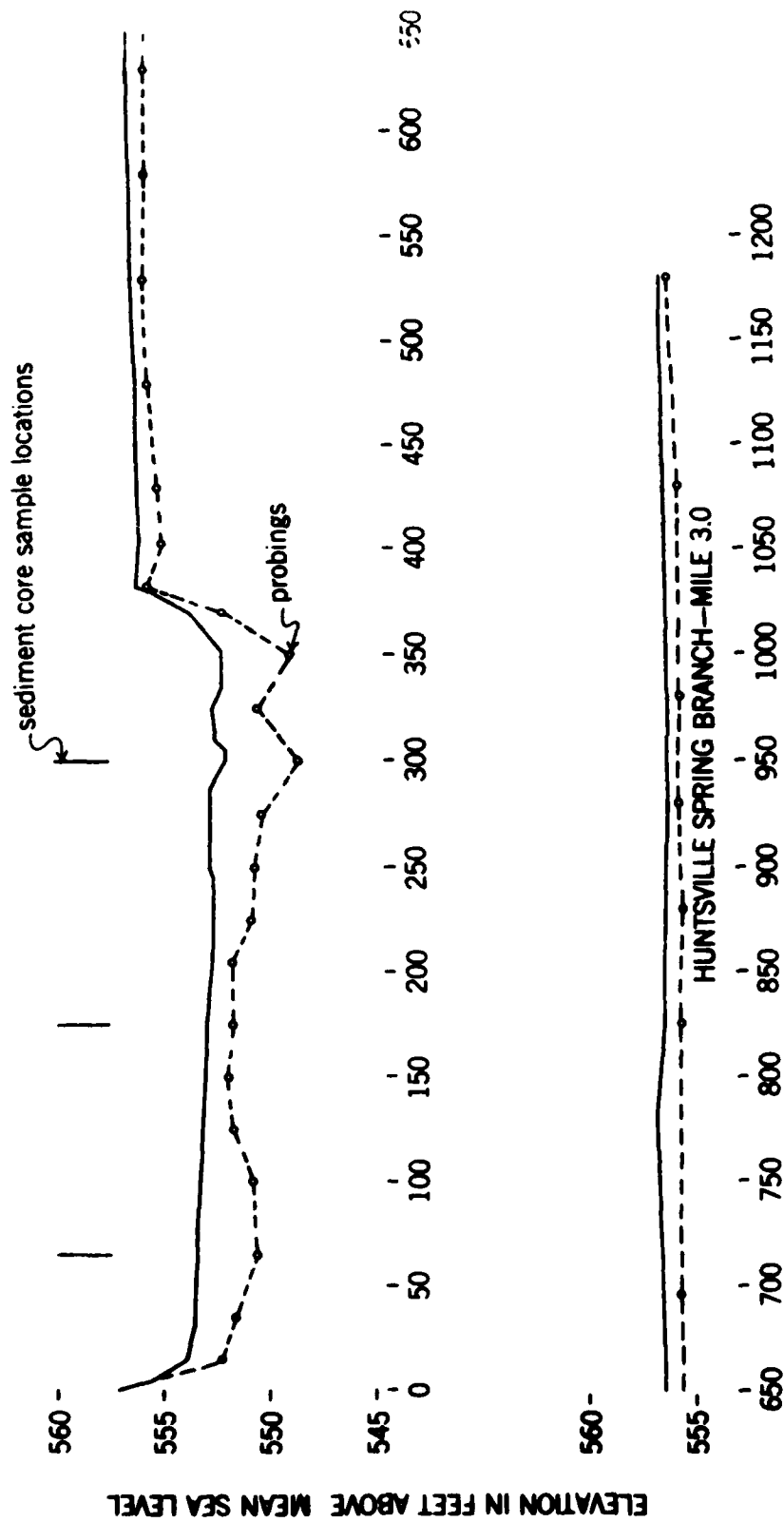
ELEVATION IN FEET ABOVE MEAN SEA LEVEL



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SEDIMENT INVESTIGATIONS
AUGUST 1979
Sheet 4 of 10



TENNESSEE VALLEY AUTHORITY DATA SERVICES BRANCH
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 SEDIMENT INVESTIGATIONS
 AUGUST 1979
 Sheet 5 of 10



HORIZONTAL DISTANCE IN FEET FROM LEFT BANK

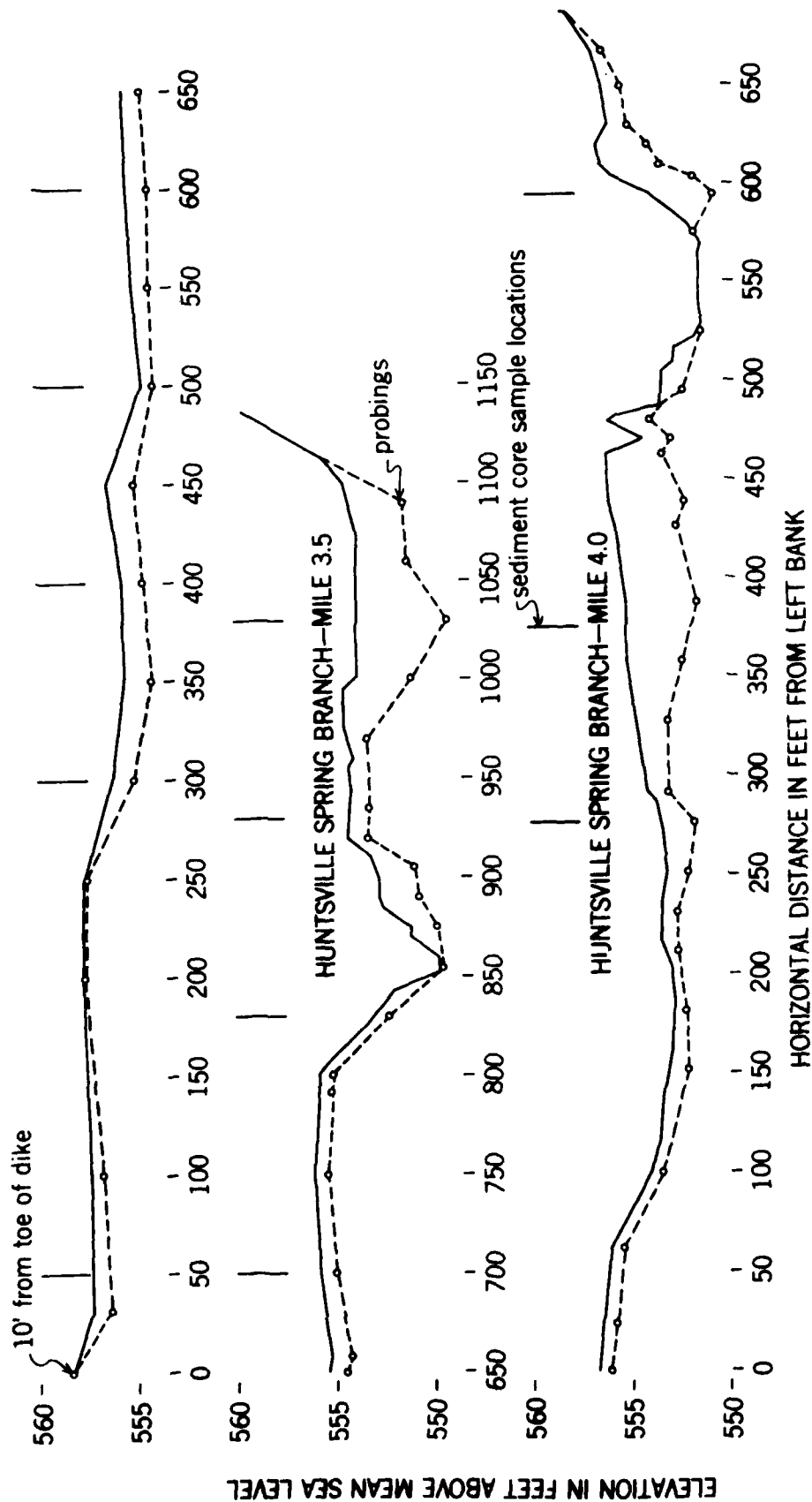
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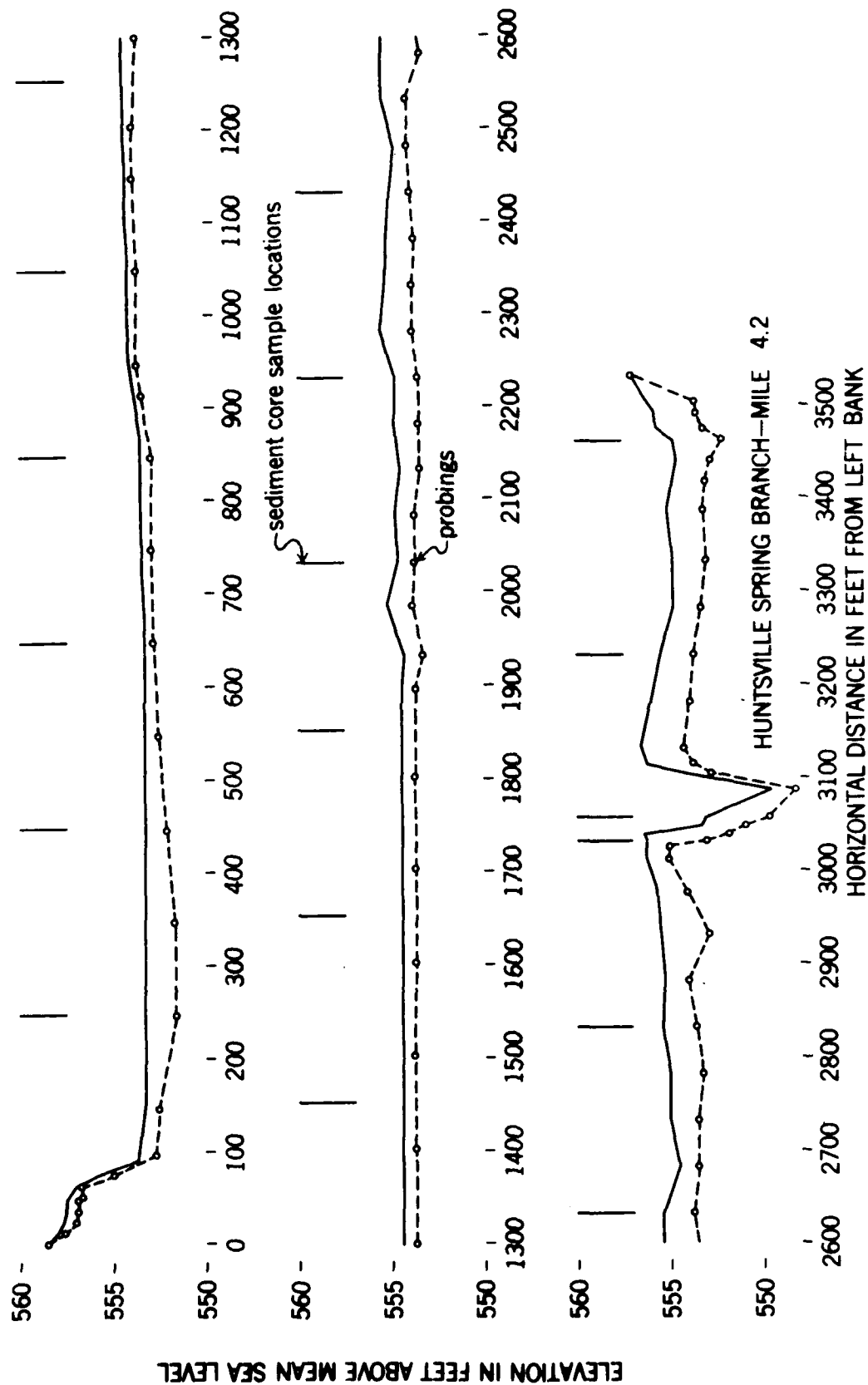
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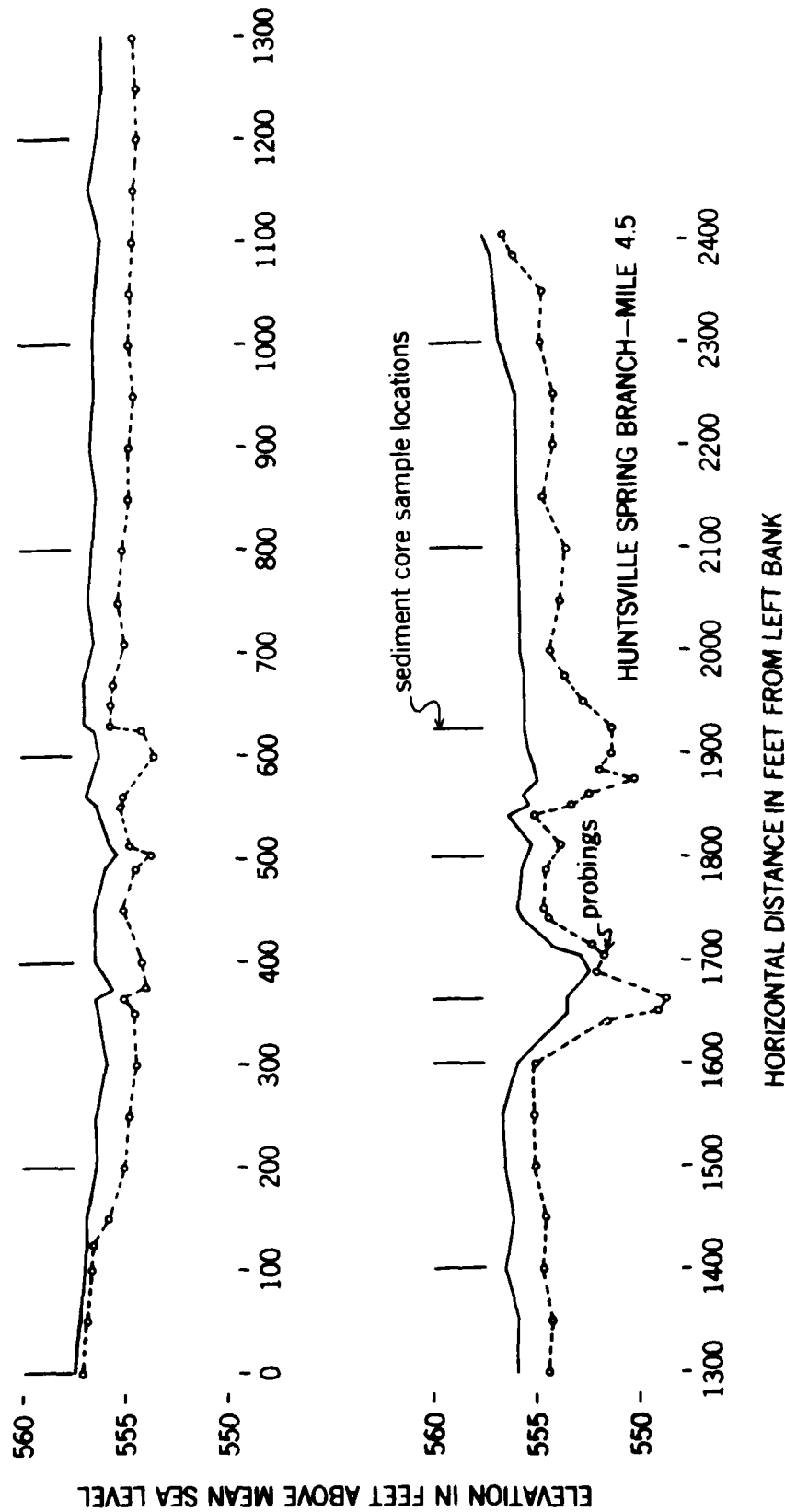
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Sheet 6 of 10

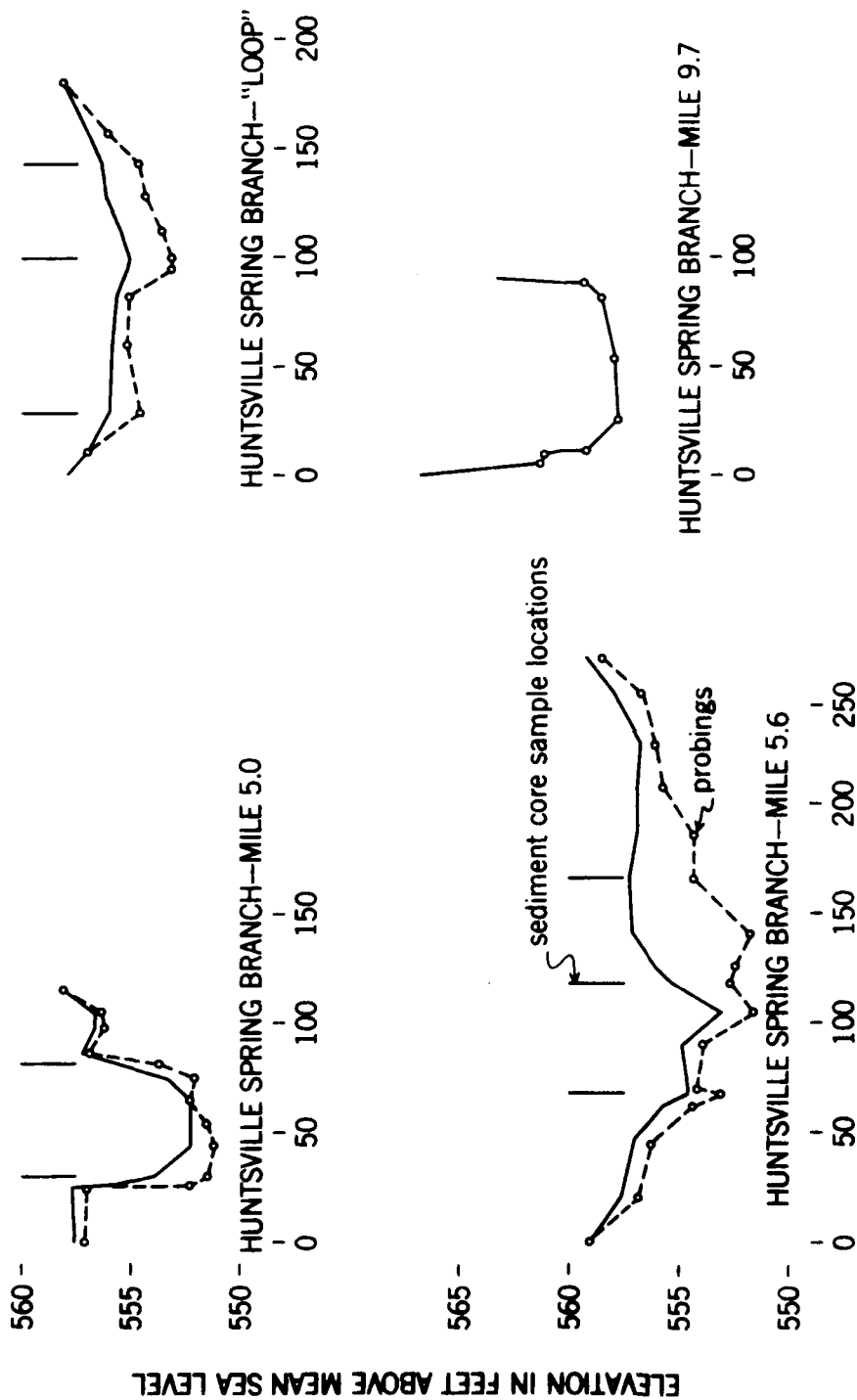


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 SEDIMENT INVESTIGATIONS
 AUGUST 1979
 Sheet 7 of 10





TENNESSEE VALLEY AUTHORITY
 DATA SERVICES BRANCH
DDT STUDY IN VICINITY OF REDSTONE ARSENAL
 SEDIMENT INVESTIGATIONS
 AUGUST 1979
 Sheet 9 of 10



HORIZONTAL DISTANCE IN FEET FROM LEFT BANK

TENNESSEE VALLEY AUTHORITY
 DATA SERVICES BRANCH
DDT STUDY IN VICINITY OF REDSTONE ARSENAL

SEDIMENT INVESTIGATIONS

AUGUST 1979

Sheet 10 of 10

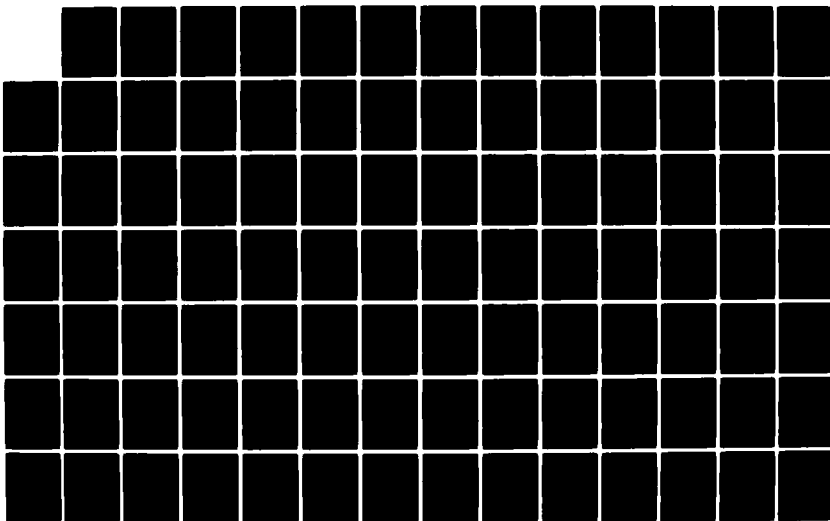
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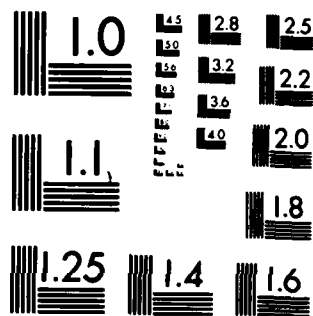
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CONTAMINATION OF HUNTSVILLE SP. (U) WATER AND AIR
RESEARCH INC GAINESVILLE FL J H SULLIVAN ET AL. NOV 80
DACW01-79-C-0224

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MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

METHOD AND PROCEDURE FOR OBTAINING CROSS-SECTION DATA FOR

REDSTONE ARSENAL DDT STUDY

To obtain cross-section data, a transit was used for alignment and leveling in conjunction with a boat containing a sonar recorder and a wire distance wheel. The transit was set up on one bank and alignment made to the other bank. Levels and probings of the overbank were taken using a level rod, probing rod, and a 100-foot tape, if necessary. The end of the wire from the wire distance wheel on the boat was secured to the "0" or to some determined distance near the water edge. Soundings were then taken by the sonar recorder as the boat crossed to the other bank. Interval distances of 25 feet were automatically recorded on the sonar chart by "fix" lines as the wire unwound from the wire wheel. Alignment of the boat was maintained by radio communication from the transitman to the boat operator. When the boat landed at the other bank, a distance was measured from the wire distance wheel to some point on the bank. Levels and probings were then taken of that overbank. The sonar chart was then reviewed for probable probing locations. After securing the wire again to the same initial point, the boat proceeded as before to the first probing location. Anchors, fore and aft, would be set, distance and alignment checked, then a probing would be made. The boat would then move to the next location and anchor as before. From the information obtained from the probings as the boat moved from one location to the next, the previously selected probing locations were revised, added to, or deleted, if deemed necessary. Where the boat and sonar could not be used due to shallow water or brush, the section was taken by wading and using the same procedure in taking the overbank section.

Water surface elevation was used for reference elevation for all sections from mile 0.0 Indian Creek to mile 4.5 Huntsville Spring Branch. The water surface elevation for the day and time each section was taken was obtained from the water level charts from gages installed at mile 0.0 and 4.7 on Indian Creek and mile 2.7 on Huntsville Spring Branch. Third-order levels were run from the gage at mile 5.9 on Patten Road Bridge to temporary bench marks (TBM's) at miles 5.0, 5.6, and the "loop" section on Huntsville Spring Branch. Elevation for section at mile 9.7 on Huntsville Spring Branch was obtained from the water level gage at mile 9.7 at the time the section was taken. All gages were tied by third order levels to second- or third-order bench marks. Data for the cross sections were recorded in Data Services Branch's field book No. 1726, page 2 through page 24, and on the sonar charts. Data for levels to gages were recorded in Data Services Branch's field book No. 3238, page 19 through page 30 and field book No. 3241, page 1 through page 18. Elevations were tied to the following bench marks: A9-4H; BM-44 (reset); BM-47; BM-H-1-R; B-314; CY-150; T5SR1-W; USEG-47; and WSR-57-R.

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APPENDIX C

TASK 4

RAW DATA TABULATIONS

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
MUMTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK 4 - ASSESSMENTS OF DDT CONCENTRATIONS AND OTHER CONTAMINANTS IN SEDIMENTS IN REDSTONE ARSENAL VICINITY

STREAM	MILE	LOCATION	CORE HORIZONTAL FRACTION (INCHES)	DATE	LAB ID	CONCENTRATIONS OF DDT MEASURED IN SEDIMENT-UG/G					TOTAL DDT	
						DDT-O,P (UG/G)	DDT-P (UG/G)	DDO-O,P (UG/G)	DDO-P (UG/G)	DDE-O,P (UG/G)	MINIMUM (UG/G)	MAXIMUM (UG/G)
BARNEN FORK CREEK	1.2	01	0-6	15AUG79		.	.	.	.	.	.	.
BARNEN FORK CREEK	1.2	01	6-12	15AUG79		.	.	.	.	.	.	.
BARNEN FORK CREEK	1.2	01	12-24	15AUG79		.	.	.	.	.	.	.
BARNEN FORK CREEK	1.2	01	>24	15AUG79		.	.	.	.	.	.	.
BARNEN FORK CREEK	1.2	01	COMP	15AUG79		.	.	.	.	.	.	.
M-VILLE SPRING BR	FP	01	0-6	30AUG79	4-140	169.00	0.02	0.09	0.18	0.17	0.33	0.79
M-VILLE SPRING BR	FP01	01	0-6	23AUG79	4-098	0.02	0.09	0.02	0.02	0.01	0.01	1981.50
M-VILLE SPRING BR	FP02	01	0-6	23AUG79	4-099	0.02	0.08	0.02	0.02	0.01	0.02	0.17
M-VILLE SPRING BR	FP03	01	0-6	23AUG79	4-100	0.02	0.11	0.02	0.04	0.01	0.05	0.25
M-VILLE SPRING BR	FP03	01	6-12	23AUG79								
M-VILLE SPRING BR	FP04	01	0-6	23AUG79	4-101	0.02	0.09	0.02	0.02	0.01	0.01	0.17
M-VILLE SPRING BR	FP05	01	0-6	23AUG79	4-102	0.08	0.29	0.02	0.06	0.01	0.04	0.50
M-VILLE SPRING BR	FP06	01	0-6	23AUG79	4-103	0.02	0.04	0.02	0.02	0.01	0.01	0.12
M-VILLE SPRING BR	FP06	01	6-12	23AUG79								
M-VILLE SPRING BR	FP07	01	0-6	23AUG79	4-104	0.02	0.09	0.02	0.04	0.01	0.01	0.14
M-VILLE SPRING BR	FP08	01	0-6	23AUG79	4-105	0.02	0.02	0.02	0.08	0.02	0.03	0.19
M-VILLE SPRING BR	FP09	01	0-6	23AUG79	4-106	0.04	0.14	0.02	0.03	0.02	0.06	0.31
M-VILLE SPRING BR	FP10	01	0-6	23AUG79	4-107	0.03	0.09	0.02	0.03	0.02	0.03	0.22
M-VILLE SPRING BR	FP11	01	0-6	23AUG79	4-108	0.05	0.12	0.08	0.07	0.07	0.09	0.48
M-VILLE SPRING BR	LCS	01	0-6	23AUG79		.	.	.	.	.	.	.
M-VILLE SPRING BR	LCS	01	6-12	23AUG79		.	.	.	.	.	.	.
M-VILLE SPRING BR	LCS	01	12-24	23AUG79		.	.	.	.	.	.	.
M-VILLE SPRING BR	LCS	02	0-6	23AUG79		.	.	.	.	.	.	.
M-VILLE SPRING BR	LCS	02	6-12	23AUG79		.	.	.	.	.	.	.
M-VILLE SPRING BR	LCS	02	12-24	23AUG79		.	.	.	.	.	.	.
M-VILLE SPRING BR	LCS	03	0-6	23AUG79		.	.	.	.	.	.	.
M-VILLE SPRING BR	LCS	03	6-12	23AUG79		.	.	.	.	.	.	.
M-VILLE SPRING BR	LCS	03	12-24	23AUG79		.	.	.	.	.	.	.
M-VILLE SPRING BR	LCS	COMP	0-6	23AUG79	4-109	0.06	0.18	0.04	0.08	0.06	0.09	0.51
M-VILLE SPRING BR	LCS	COMP	6-12	23AUG79	4-110	0.05	0.21	0.05	0.14	0.07	0.24	0.76
M-VILLE SPRING BR	LCS	COMP	12-24	23AUG79	4-111	0.03	0.71	0.11	0.34	0.03	0.08	1.30
M-VILLE SPRING BR	0.0	01	0-6	16AUG79		.	.	.	.	.	.	.
M-VILLE SPRING BR	0.0	01	6-12	16AUG79		.	.	.	.	.	.	.
M-VILLE SPRING BR	0.0	02	0-6	16AUG79		.	.	.	.	.	.	.
M-VILLE SPRING BR	0.0	02	6-12	16AUG79		.	.	.	.	.	.	.
M-VILLE SPRING BR	0.0	02	12-24	16AUG79	4-034	0.11	2.35	0.51	1.11	0.44	0.43	4.95
M-VILLE SPRING BR	0.0	02	0-6	16AUG79	4-032	0.10	3.05	1.22	3.68	1.08	1.11	10.24
M-VILLE SPRING BR	0.0	COMP	6-12	16AUG79	4-033	0.02	0.17	0.10	0.22	0.07	0.08	0.62
M-VILLE SPRING BR	1.0	01	0-6	16AUG79	4-141	5.15	60.70	17.10	49.70	11.40	17.70	161.75
M-VILLE SPRING BR	1.0	01	6-12	16AUG79	4-142	0.76	4.83	6.86	16.30	2.70	7.11	38.56
M-VILLE SPRING BR	1.0	01	12-24	16AUG79	4-143	0.31	0.95	1.31	2.85	1.53	1.98	8.93
M-VILLE SPRING BR	1.0	02	0-6	16AUG79		.	.	.	.	.	.	.
M-VILLE SPRING BR	1.0	02	6-12	16AUG79		.	.	.	.	.	.	.
M-VILLE SPRING BR	1.0	02	12-24	16AUG79		.	.	.	.	.	.	.
M-VILLE SPRING BR	1.0	03	0-6	16AUG79	4-181	1.28	22.80	2.43	6.88	0.95	2.45	36.79
M-VILLE SPRING BR	1.0	03	6-12	16AUG79	4-182	0.05	2.42	0.37	1.39	0.17	0.39	4.79
M-VILLE SPRING BR	1.0	03	12-24	16AUG79	4-183	0.03	1.61	0.32	0.91	0.11	0.22	3.20
M-VILLE SPRING BR	1.0	03	>24	16AUG79	4-041	0.02	0.53	0.19	0.41	0.12	0.11	1.36
M-VILLE SPRING BR	1.0	03	0-6	16AUG79	4-184	0.01	0.25	0.10	0.21	0.06	0.09	0.71
M-VILLE SPRING BR	1.0	COMP	0-6	16AUG79	4-038	2.73	43.00	11.50	36.50	7.81	10.40	131.94

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK 4 - ASSESSMENTS OF DDT CONCENTRATIONS AND OTHER CONTAMINANTS IN SEDIMENTS IN REDSTONE ARSENAL VICINITY

STREAM	MILE	HORIZONTAL LOCATION	CORE FRACTION (INCHES)	DATE	LAB ID	CONCENTRATIONS OF DDT MEASURED IN SEDIMENT-UG/G				---TOTAL DDT---			
						DDT-O,P (UG/G)	DDT-P,P (UG/G)	DDO-O,P (UG/G)	DDO-P,P (UG/G)	MINIMUM (UG/G)	MAXIMUM (UG/G)		
+VILLE SPRING BR 1.0	COMP	6-12	16AUG79	4-039		0.68	34.40	10.30	34.40	9.75	99.83	99.83	
+VILLE SPRING BR 1.0	COMP	12-24	16AUG79	4-040		0.02	0.81	0.48	1.10	0.57	3.64	3.64	
+VILLE SPRING BR 1.7	01	0-6	16AUG79	4-144	<	0.02	0.03	0.42	0.30	1.16	2.02	2.04	
+VILLE SPRING BR 1.7	01	0-6	16AUG79	4-145	<	0.01	0.02	0.03	0.02	0.01	0.11	0.12	
+VILLE SPRING BR 1.7	02	0-6	16AUG79										
+VILLE SPRING BR 1.7	02	0-6	16AUG79										
+VILLE SPRING BR 1.7	03	0-6	16AUG79										
+VILLE SPRING BR 1.7	03	0-6	16AUG79										
+VILLE SPRING BR 1.7	04	0-6	16AUG79										
+VILLE SPRING BR 1.7	04	0-6	16AUG79										
+VILLE SPRING BR 1.7	2,3,4	0-6	16AUG79	4-146		0.06	0.52	1.81	1.37	1.89	6.17	6.17	
+VILLE SPRING BR 1.7	2,3,4	0-6	16AUG79	4-147	<	0.08	0.15	0.65	0.53	0.63	2.14	2.22	
+VILLE SPRING BR 1.7	05	0-6	17AUG79										
+VILLE SPRING BR 1.7	05	0-6	17AUG79										
+VILLE SPRING BR 1.7	05	0-6	17AUG79										
+VILLE SPRING BR 1.7	06	0-6	17AUG79										
+VILLE SPRING BR 1.7	06	0-6	17AUG79										
+VILLE SPRING BR 1.7	06	0-6	17AUG79										
+VILLE SPRING BR 1.7	06	0-6	17AUG79										
+VILLE SPRING BR 1.7	5,6	0-6	17AUG79	4-148		2.25	180.00	32.00	128.00	22.50	381.25	381.25	
+VILLE SPRING BR 1.7	5,6	0-6	17AUG79	4-149	<	0.08	1.28	1.55	5.13	1.33	10.82	10.90	
+VILLE SPRING BR 1.7	5,6	0-6	17AUG79	4-150		0.02	0.24	0.07	0.16	0.07	0.60	0.60	
+VILLE SPRING BR 1.7	07	0-6	17AUG79	4-151		1.75	115.00	13.00	47.50	15.00	199.75	199.75	
+VILLE SPRING BR 1.7	07	0-6	17AUG79	4-152		0.02	0.33	0.04	0.16	0.06	0.64	0.64	
+VILLE SPRING BR 1.7	07	0-6	17AUG79	4-153		0.02	0.16	0.05	0.10	0.02	0.39	0.39	
+VILLE SPRING BR 1.7	08	0-6	17AUG79	4-154		0.13	6.00	0.89	2.00	1.07	10.43	10.43	
+VILLE SPRING BR 1.7	08	0-6	17AUG79	4-155		0.04	2.75	0.21	0.50	0.38	3.99	3.99	
+VILLE SPRING BR 1.7	08	0-6	17AUG79	4-156	<	0.07	0.10	0.05	0.05	0.04	0.15	0.15	
+VILLE SPRING BR 1.7	08	0-6	17AUG79	4-157	<	0.02	0.14	0.02	0.10	0.01	0.25	0.30	
+VILLE SPRING BR 1.7	08	0-6	17AUG79	4-157	<	0.09	0.30	0.06	0.08	0.05	0.43	0.63	
+VILLE SPRING BR 1.7	COMP	0-6	17AUG79	4-044		1.14	52.50	11.00	35.00	9.00	115.14	115.14	
+VILLE SPRING BR 1.7	COMP	0-6	17AUG79	4-045		0.02	1.28	0.66	1.20	0.48	4.02	4.02	
+VILLE SPRING BR 1.7	COMP	0-6	17AUG79	4-046	<	0.02	0.13	0.03	0.07	0.02	0.27	0.29	
+VILLE SPRING BR 2.0	01	0-6	17AUG79										
+VILLE SPRING BR 2.0	01	0-6	17AUG79	4-049		0.19	6.50	5.00	4.25	3.75	21.14	21.14	
+VILLE SPRING BR 2.0	02	0-6	17AUG79										
+VILLE SPRING BR 2.0	COMP	0-6	17AUG79	4-048		0.40	13.70	2.74	5.06	2.69	25.81	25.81	
+VILLE SPRING BR 3.0	01	0-6	20AUG79	4-158		2.73	200.00	23.60	153.00	33.00	422.53	422.53	
+VILLE SPRING BR 3.0	01	0-6	20AUG79	4-159		0.03	0.55	0.36	2.42	1.55	5.99	5.99	
+VILLE SPRING BR 3.0	01	0-6	20AUG79	4-160	<	0.02	0.17	0.04	0.14	0.04	0.41	0.43	
+VILLE SPRING BR 3.0	01	0-6	20AUG79	4-063	<	0.02	0.57	0.11	0.45	0.08	1.25	1.27	
+VILLE SPRING BR 3.0	01	0-6	20AUG79	4-161		0.01	0.19	0.05	0.12	0.08	0.48	0.48	
+VILLE SPRING BR 3.0	02	0-6	20AUG79										
+VILLE SPRING BR 3.0	02	0-6	20AUG79										
+VILLE SPRING BR 3.0	03	0-6	20AUG79	4-162		2.40	472.00	74.70	290.00	113.00	1018.40	1018.40	
+VILLE SPRING BR 3.0	03	0-6	20AUG79	4-163	<	4.02	30.20	5.78	23.40	7.29	71.44	75.46	
+VILLE SPRING BR 3.0	03	0-6	20AUG79	4-164	<	0.13	4.15	0.75	2.18	0.48	7.91	8.04	
+VILLE SPRING BR 3.0	COMP	0-6	20AUG79	4-060		2.60	166.00	30.40	102.00	29.40	349.00	349.00	
+VILLE SPRING BR 3.0	COMP	0-6	20AUG79	4-061		0.26	10.40	3.17	8.51	1.98	25.71	25.71	
+VILLE SPRING BR 3.0	COMP	0-6	20AUG79	4-062		0.04	1.53	0.32	0.99	0.24	3.25	3.25	
+VILLE SPRING BR 3.5	01	0-6	17AUG79	4-165		0.13	7.13	1.20	2.80	1.15	13.06	13.06	

TASK4 - ASSESSMENTS OF DO NOT CONCENTRATIONS AND OTHER CONTAMINANTS IN SEDIMENTS IN REDSTONE ARSENAL VICINITY

STREAM	HORIZONTAL LOCATION	MILE	FRACTION (INCHES)	CORE DATE	LABID	CONCENTRATIONS OF DDT MEASURED IN SEDIMENT						---TOTAL		DOT R--- MAXIMUM (UG/G)
						DOT-O,P (UG/G)	DOT-P,P (UG/G)	DOT-O,P (UG/G)	DOT-P,P (UG/G)	DOT-O,P (UG/G)	DOT-P,P (UG/G)	MINIMUM (UG/G)	MAXIMUM (UG/G)	
M-VILLE SPRING BR 3.5	0-6	3.5	02	17AUG79	4-166	<	0.14	1.01	1.32	0.98	0.42	1.57	5.30	5.44
M-VILLE SPRING BR 3.5	6-12	3.5	02	17AUG79	4-167	<	0.01	0.02	0.01	0.01	0.00	0.03	0.03	0.08
M-VILLE SPRING BR 3.5	0-6	3.5	03	17AUG79										
M-VILLE SPRING BR 3.5	6-12	3.5	03	17AUG79										
M-VILLE SPRING BR 3.5	0-6	3.5	04	17AUG79										
M-VILLE SPRING BR 3.5	6-12	3.5	04	17AUG79										
M-VILLE SPRING BR 3.5	0-6	3.5	3.4	17AUG79	4-168	<	0.40	0.40	2.53	1.73	1.271	8.79	14.32	15.12
M-VILLE SPRING BR 3.5	6-12	3.5	3.5	17AUG79	4-169	<	0.01	0.02	0.03	0.02	0.02	0.09	0.16	0.19
M-VILLE SPRING BR 3.5	0-6	3.5	05	17AUG79										
M-VILLE SPRING BR 3.5	6-12	3.5	05	17AUG79										
M-VILLE SPRING BR 3.5	0-6	3.5	06	17AUG79										
M-VILLE SPRING BR 3.5	6-12	3.5	06	17AUG79										
M-VILLE SPRING BR 3.5	0-6	3.5	5.6	17AUG79	4-170	<	0.13	1.68	3.28	1.45	0.85	3.13	10.39	10.52
M-VILLE SPRING BR 3.5	6-12	3.5	5.6	17AUG79	4-171	<	0.41	0.91	2.94	1.74	1.24	4.26	11.09	11.50
M-VILLE SPRING BR 3.5	0-6	3.5	07	17AUG79										
M-VILLE SPRING BR 3.5	6-12	3.5	08	17AUG79										
M-VILLE SPRING BR 3.5	0-6	3.5	08	17AUG79										
M-VILLE SPRING BR 3.5	6-12	3.5	08	17AUG79	4-055		0.07	2.21	0.89	1.97	0.24	0.44	5.82	5.82
M-VILLE SPRING BR 3.5	12-24	3.5	08	17AUG79	4-172		7.00	78.80	56.30	68.80	17.30	38.80	267.00	267.00
M-VILLE SPRING BR 3.5	0-6	3.5	7.8	17AUG79	4-173		5.23	81.30	40.40	92.50	17.80	48.60	285.83	285.83
M-VILLE SPRING BR 3.5	6-12	3.5	7.8	17AUG79	4-174		0.28	3.10	0.30	0.89	0.20	0.52	5.09	5.29
M-VILLE SPRING BR 3.5	12-24	3.5	7.8	17AUG79										
M-VILLE SPRING BR 3.5	0-6	3.5	09	17AUG79										
M-VILLE SPRING BR 3.5	6-12	3.5	09	17AUG79										
M-VILLE SPRING BR 3.5	0-6	3.5	COMP	17AUG79	4-053		3.94	85.00	27.30	50.60	5.56	14.20	186.60	186.60
M-VILLE SPRING BR 3.5	6-12	3.5	COMP	17AUG79	4-054		1.58	63.10	22.10	58.90	6.83	14.70	167.21	167.21
M-VILLE SPRING BR 4.0	0-6	4.0	01	20AUG79	4-175		0.40	0.44	0.14	0.16	0.12	0.31	1.57	1.57
M-VILLE SPRING BR 4.0	6-12	4.0	01	20AUG79	4-176	<	0.53	6.38	2.58	5.88	1.05	2.80	18.69	19.22
M-VILLE SPRING BR 4.0	0-6	4.0	02	20AUG79	4-177	<	52.50	875.00	363.00	775.00	131.00	365.00	2529.00	2581.50
M-VILLE SPRING BR 4.0	6-12	4.0	02	20AUG79	4-178	<	70.00	1113.00	488.00	838.00	111.00	325.00	2943.00	2943.00
M-VILLE SPRING BR 4.0	12-24	4.0	02	20AUG79	4-179		6.60	132.00	76.00	96.00	8.80	32.00	351.40	351.40
M-VILLE SPRING BR 4.0	0-6	4.0	02	20AUG79	4-059		0.20	3.00	1.56	2.18	0.29	0.68	7.91	7.91
M-VILLE SPRING BR 4.0	6-12	4.0	02	20AUG79	4-180		0.13	3.00	0.48	0.85	0.13	0.30	4.89	4.89
M-VILLE SPRING BR 4.0	0-6	4.0	03	20AUG79	4-181		0.32	4.78	0.66	0.78	0.34	0.98	7.86	7.86
M-VILLE SPRING BR 4.0	6-12	4.0	03	20AUG79	4-186	<	0.03	0.27	0.06	0.15	0.11	0.05	0.63	0.66
M-VILLE SPRING BR 4.0	12-24	4.0	03	20AUG79	4-187	<	0.04	0.05	0.08	0.02	0.02	0.07	0.24	0.28
M-VILLE SPRING BR 4.0	0-6	4.0	COMP	20AUG79	4-056		17.80	280.00	131.00	222.00	32.10	70.20	753.10	753.10
M-VILLE SPRING BR 4.0	6-12	4.0	COMP	20AUG79	4-057		27.50	315.00	196.00	260.00	42.00	98.50	939.00	939.00
M-VILLE SPRING BR 4.0	12-24	4.0	COMP	20AUG79	4-058		10.60	167.00	60.10	88.80	9.09	21.70	357.29	357.29
M-VILLE SPRING BR 4.2	0-6	4.2	01	22AUG79										
M-VILLE SPRING BR 4.2	6-12	4.2	01	22AUG79										
M-VILLE SPRING BR 4.2	12-24	4.2	01	22AUG79										
M-VILLE SPRING BR 4.2	0-6	4.2	02	22AUG79										
M-VILLE SPRING BR 4.2	6-12	4.2	02	22AUG79										
M-VILLE SPRING BR 4.2	12-24	4.2	02	22AUG79										
M-VILLE SPRING BR 4.2	0-6	4.2	03	22AUG79										
M-VILLE SPRING BR 4.2	6-12	4.2	03	22AUG79										
M-VILLE SPRING BR 4.2	12-24	4.2	03	22AUG79										
M-VILLE SPRING BR 4.2	0-6	4.2	04	22AUG79										
M-VILLE SPRING BR 4.2	6-12	4.2	04	22AUG79										
M-VILLE SPRING BR 4.2	12-24	4.2	04	22AUG79										
M-VILLE SPRING BR 4.2	0-6	4.2	05	22AUG79										
M-VILLE SPRING BR 4.2	6-12	4.2	05	22AUG79										
M-VILLE SPRING BR 4.2	12-24	4.2	05	22AUG79										

TASK4 - ASSESSMENTS OF DDT CONCENTRATIONS AND OTHER CONTAMINANTS IN SEDIMENTS IN REDSTONE ARSENAL VICINITY

STREAM	MILE LOCATION	CORE HORIZONTAL LOCATION (INCHES)	DATE	LAB ID	CONCENTRATIONS OF DDT MEASURED IN SEDIMENT-UG/G										---TOTAL---	
					DDT-O,P (UG/G)	DDT-P,P (UG/G)	DDO-O,P (UG/G)	DDO-P,P (UG/G)	DOE-O,P (UG/G)	DOE-P,P (UG/G)	MINIMUM (UG/G)	MAXIMUM (UG/G)				
1-VILLE SPRING BR 4-2	06	0-6	22AUG79													
1-VILLE SPRING BR 4-2	07	0-6	22AUG79													
1-VILLE SPRING BR 4-2	08	0-6	22AUG79													
1-VILLE SPRING BR 4-2	09	0-6	22AUG79													
1-VILLE SPRING BR 4-2	10	0-6	22AUG79													
1-VILLE SPRING BR 4-2	10	6-12	22AUG79													
1-VILLE SPRING BR 4-2	11	0-6	22AUG79													
1-VILLE SPRING BR 4-2	11	6-12	22AUG79													
1-VILLE SPRING BR 4-2	12	0-6	22AUG79	4-214	0.10	1.11	2.10	2.49	0.98	2.59	9.37	9.37	9.37	9.37	9.37	9.37
1-VILLE SPRING BR 4-2	12	6-12	22AUG79	4-215	0.01	0.01	0.06	0.05	0.03	0.09	0.24	0.24	0.24	0.24	0.24	0.24
1-VILLE SPRING BR 4-2	13	0-6	22AUG79	4-216	0.38	5.15	8.00	10.80	2.50	6.25	33.08	33.08	33.08	33.08	33.08	33.08
1-VILLE SPRING BR 4-2	13	6-12	22AUG79	4-217	<	0.05	0.92	1.04	0.56	1.44	4.40	4.40	4.40	4.40	4.40	4.40
1-VILLE SPRING BR 4-2	14	0-6	22AUG79													
1-VILLE SPRING BR 4-2	14	6-12	22AUG79													
1-VILLE SPRING BR 4-2	16	0-6	22AUG79	4-220	740.00	6100.00	640.00	850.00	148.00	435.00	8913.00	8913.00	8913.00	8913.00	8913.00	8913.00
1-VILLE SPRING BR 4-2	16	6-12	22AUG79	4-221	2300.00	12700	1000.00	1300.00	150.00	650.00	18100	18100	18100	18100	18100	18100
1-VILLE SPRING BR 4-2	16	12-24	22AUG79	4-218	21.40	50.00	4.79	8.82	0.74	2.46	88.21	88.21	88.21	88.21	88.21	88.21
1-VILLE SPRING BR 4-2	16	>24	22AUG79	4-219	1550.00	8630.00	369.00	1050.00	44.50	226.00	11869.5	11869.5	11869.5	11869.5	11869.5	11869.5
1-VILLE SPRING BR 4-2	17	0-6	22AUG79	4-222	4.76	36.70	12.20	12.20	4.08	15.60	85.54	85.54	85.54	85.54	85.54	85.54
1-VILLE SPRING BR 4-2	17	6-12	22AUG79	4-223	1.56	12.20	22.60	21.10	7.02	20.80	85.28	85.28	85.28	85.28	85.28	85.28
1-VILLE SPRING BR 4-2	17	12-24	22AUG79	4-224	4.20	11.80	1.08	1.30	0.30	1.08	19.76	19.76	19.76	19.76	19.76	19.76
1-VILLE SPRING BR 4-2	18	0-6	22AUG79	4-225	0.70	7.50	0.73	1.03	0.25	0.98	11.19	11.19	11.19	11.19	11.19	11.19
1-VILLE SPRING BR 4-2	18	6-12	22AUG79	4-226	0.09	0.17	0.14	0.09	0.06	0.19	0.74	0.74	0.74	0.74	0.74	0.74
1-VILLE SPRING BR 4-2	18	12-24	22AUG79	4-227	0.11	0.34	0.05	0.07	0.01	0.04	0.62	0.62	0.62	0.62	0.62	0.62
1-VILLE SPRING BR 4-2	18	>24	22AUG79													
1-VILLE SPRING BR 4-2	COMP	0-6	22AUG79	4-075	66.80	796.00	54.50	65.20	10.10	42.70	1035.30	1035.30	1035.30	1035.30	1035.30	1035.30
1-VILLE SPRING BR 4-2	COMP	6-12	22AUG79	4-076	1572.00	1070.00	82.00	97.00	13.90	66.00	1485.90	1485.90	1485.90	1485.90	1485.90	1485.90
1-VILLE SPRING BR 4-2	COMP	12-24	22AUG79	4-077	32.00	1595.00	74.50	98.50	10.80	54.50	2165.30	2165.30	2165.30	2165.30	2165.30	2165.30
1-VILLE SPRING BR 4-2	COMP	>24	22AUG79	4-078	7.45	35.70	1.60	1.80	0.23	1.20	47.98	47.98	47.98	47.98	47.98	47.98
1-VILLE SPRING BR 4-2	01	0-6	22AUG79													
1-VILLE SPRING BR 4-2	02	0-6	22AUG79													
1-VILLE SPRING BR 4-2	03	0-6	22AUG79													
1-VILLE SPRING BR 4-2	COMP	0-6	22AUG79	4-082	0.04	0.82	0.60	0.97	0.62	1.54	4.59	4.59	4.59	4.59	4.59	4.59
1-VILLE SPRING BR 4-2	04	0-6	22AUG79													
1-VILLE SPRING BR 4-2	05	0-6	22AUG79													
1-VILLE SPRING BR 4-2	06	0-6	22AUG79													
1-VILLE SPRING BR 4-2	COMP	0-6	22AUG79	4-083	0.05	0.59	0.69	1.06	0.34	0.86	3.59	3.59	3.59	3.59	3.59	3.59
1-VILLE SPRING BR 4-2	07	0-6	22AUG79													
1-VILLE SPRING BR 4-2	08	0-6	22AUG79													
1-VILLE SPRING BR 4-2	09	0-6	22AUG79	4-084												
1-VILLE SPRING BR 4-2	COMP	0-6	22AUG79		0.02	0.14	0.38	0.55	0.18	0.41	1.68	1.68	1.68	1.68	1.68	1.68
1-VILLE SPRING BR 4-2	10	0-6	22AUG79													
1-VILLE SPRING BR 4-2	11	0-6	22AUG79													
1-VILLE SPRING BR 4-2	12	0-6	22AUG79													
1-VILLE SPRING BR 4-2	COMP	0-6	22AUG79	4-085	0.18	1.29	2.39	2.90	0.80	2.40	9.96	9.96	9.96	9.96	9.96	9.96
1-VILLE SPRING BR 4-2	13	0-6	22AUG79													
1-VILLE SPRING BR 4-2	14	0-6	22AUG79													
1-VILLE SPRING BR 4-2	16	0-6	22AUG79													
1-VILLE SPRING BR 4-2	COMP	0-6	22AUG79	4-086	202.00	2500.00	221.00	305.00	45.00	160.00	3529.00	3529.00	3529.00	3529.00	3529.00	3529.00
1-VILLE SPRING BR 4-2	17	0-6	22AUG79													

7

STREAM	HORIZONTAL LOCATION	MILE	FRACTION	CORE	LABID	CONCENTRATIONS OF DDT MEASURED IN SEDIMENT-UG/G										TOTAL	
						DOT-0,P (UG/G)	DOT-P,P (UG/G)	DOT-0,P (UG/G)	DOT-P,P (UG/G)	DOT-0,P (UG/G)	DOT-P,P (UG/G)	DOT-0,P (UG/G)	DOT-P,P (UG/G)	DOT-0,P (UG/G)	DOT-P,P (UG/G)	MINIMUM (UG/G)	MAXIMUM (UG/G)
M-VILLE	SPRING BR 4.2	18	0-6	22AUG79	4-087	1.10	17.40	7.85	7.60	2.60	8.50	45.05	45.05				
M-VILLE	SPRING BR 4.2	COMP	0-6	22AUG79													
M-VILLE	SPRING BR 4.2	01	6-12	22AUG79													
M-VILLE	SPRING BR 4.2	02	6-12	22AUG79													
M-VILLE	SPRING BR 4.2	03	6-12	22AUG79	4-088	< 0.02	0.09	0.15	0.25	0.19	0.38	1.06	1.08				
M-VILLE	SPRING BR 4.2	COMP	6-12	22AUG79													
M-VILLE	SPRING BR 4.2	04	6-12	22AUG79													
M-VILLE	SPRING BR 4.2	05	6-12	22AUG79	4-089	< 0.02	0.05	0.06	0.09	0.03	0.06	0.29	0.31				
M-VILLE	SPRING BR 4.2	COMP	6-12	22AUG79													
M-VILLE	SPRING BR 4.2	10	6-12	22AUG79													
M-VILLE	SPRING BR 4.2	11	6-12	22AUG79													
M-VILLE	SPRING BR 4.2	12	6-12	22AUG79	4-090	< 0.02	0.04	0.07	0.08	0.03	0.05	0.27	0.29				
M-VILLE	SPRING BR 4.2	COMP	6-12	22AUG79													
M-VILLE	SPRING BR 4.2	13	6-12	22AUG79													
M-VILLE	SPRING BR 4.2	14	6-12	22AUG79													
M-VILLE	SPRING BR 4.2	16	6-12	22AUG79													
M-VILLE	SPRING BR 4.2	COMP	6-12	22AUG79	4-091	730.00	4400.00	385.00	460.00	60.00	255.00	6290.00	6290.00				
M-VILLE	SPRING BR 4.2	17	6-12	22AUG79													
M-VILLE	SPRING BR 4.2	18	6-12	22AUG79	4-092	4.10	21.60	13.10	14.40	2.75	6.50	62.45	62.45				
M-VILLE	SPRING BR 4.2	COMP	6-12	22AUG79													
M-VILLE	SPRING BR 4.2	01	12-24	22AUG79													
M-VILLE	SPRING BR 4.2	02	12-24	22AUG79	4-093	0.28	1.63	0.13	0.18	0.05	0.13	2.40	2.40				
M-VILLE	SPRING BR 4.2	COMP	12-24	22AUG79	4-094	1230.00	5650.00	520.00	460.00	54.00	245.00	8159.00	8159.00				
M-VILLE	SPRING BR 4.2	17	12-24	22AUG79													
M-VILLE	SPRING BR 4.2	18	12-24	22AUG79	4-095	1.57	9.50	0.77	0.93	0.13	0.51	13.41	13.41				
M-VILLE	SPRING BR 4.2	COMP	12-24	22AUG79	4-096	7.50	38.40	2.90	3.30	0.38	1.90	54.38	54.38				
M-VILLE	SPRING BR 4.2	16	>24	22AUG79	4-097	0.04	0.21	0.04	0.05	0.01	0.02	0.36	0.37				
M-VILLE	SPRING BR 4.2	18	>24	22AUG79													
M-VILLE	SPRING BR 4.5	01	0-6	21AUG79	4-188	0.04	0.19	0.05	0.11	0.05	0.36	0.81	0.81				
M-VILLE	SPRING BR 4.5	02	0-6	21AUG79	4-189	0.06	1.20	0.40	0.75	0.32	1.68	4.41	4.41				
M-VILLE	SPRING BR 4.5	02	6-12	21AUG79	4-190	< 0.01	0.03	0.03	0.04	0.04	0.28	0.41	0.42				
M-VILLE	SPRING BR 4.5	03	0-6	21AUG79	4-191	0.52	0.70	0.62	0.94	0.40	1.05	4.23	4.23				
M-VILLE	SPRING BR 4.5	03	6-12	21AUG79	4-192	0.01	0.02	0.03	0.05	0.02	0.04	0.17	0.17				
M-VILLE	SPRING BR 4.5	03	12-24	21AUG79	4-193	0.05	0.26	0.05	0.07	0.02	0.06	0.52	0.52				
M-VILLE	SPRING BR 4.5	04	0-6	21AUG79													
M-VILLE	SPRING BR 4.5	04	6-12	21AUG79													
M-VILLE	SPRING BR 4.5	04	12-24	21AUG79													
M-VILLE	SPRING BR 4.5	05	0-6	21AUG79													
M-VILLE	SPRING BR 4.5	05	6-12	21AUG79													
M-VILLE	SPRING BR 4.5	05	12-24	21AUG79													
M-VILLE	SPRING BR 4.5	06	0-6	21AUG79													
M-VILLE	SPRING BR 4.5	06	6-12	21AUG79													
M-VILLE	SPRING BR 4.5	06	12-24	21AUG79	4-194	0.34	4.36	3.61	6.21	2.01	5.03	21.56	21.56				
M-VILLE	SPRING BR 4.5	4.5,6	0-6	21AUG79	4-195	0.05	0.35	1.44	1.38	0.83	1.50	5.55	5.55				
M-VILLE	SPRING BR 4.5	4.5,6	6-12	21AUG79	4-196	< 0.02	0.04	0.08	0.05	0.05	0.09	0.27	0.33				
M-VILLE	SPRING BR 4.5	07	12-24	21AUG79													
M-VILLE	SPRING BR 4.5	07	0-6	21AUG79													
M-VILLE	SPRING BR 4.5	07	6-12	21AUG79													
M-VILLE	SPRING BR 4.5	07	12-24	21AUG79													

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASKS - ASSESSMENTS OF DDT CONCENTRATIONS AND OTHER CONTAMINANTS IN SEDIMENTS IN PEDSTONE ARSENAL VICINITY

TREAM	MILE LOCATION	HORIZONTAL FRACTION (INCHES)	CORE	DATE	LAB ID	CONCENTRATIONS OF DDT MEASURED IN SEDIMENT-UG/G										TOTAL DDT	
						DDT-O,P (UG/G)	DDT-P,P (UG/G)	DDT-O,P (UG/G)	DDT-P,P (UG/G)	DDT-O,P (UG/G)	DDT-P,P (UG/G)	DDT-O,P (UG/G)	DDT-P,P (UG/G)	DDT-O,P (UG/G)	DDT-P,P (UG/G)	MINIMUM (UG/G)	MAXIMUM (UG/G)
-VILLE SPRING BR 4.5 08		0-6		21AUG79		.	.	.	.	.	.	.	.	.	.	.	.
-VILLE SPRING BR 4.5 08		6-12		21AUG79		.	.	.	.	.	.	.	.	.	.	.	.
-VILLE SPRING BR 4.5 08		12-24		21AUG79		.	.	.	.	.	.	.	.	.	.	.	.
-VILLE SPRING BR 4.5 7.8		0-6		21AUG79	4-197	0.34	16.50	7.53	11.40	3.30	10.10	49.17	49.17	49.17	49.17	49.17	49.17
-VILLE SPRING BR 4.5 7.8		6-12		21AUG79	4-198	<	0.10	0.50	4.70	1.05	1.25	10.60	10.60	10.60	10.60	10.60	10.60
-VILLE SPRING BR 4.5 7.8		12-24		21AUG79	4-199	<	0.01	0.01	0.04	0.02	0.06	0.17	0.17	0.17	0.17	0.17	0.17
-VILLE SPRING BR 4.5 09		0-6		21AUG79	4-200	105.00	860.00	46.20	39.90	23.10	90.30	1164.50	1164.50	1164.50	1164.50	1164.50	1164.50
-VILLE SPRING BR 4.5 10		6-12		21AUG79	4-201	400.00	900.00	1000.00	2200.00	300.00	950.00	14250	14250	14250	14250	14250	14250
-VILLE SPRING BR 4.5 10		12-24		21AUG79	4-202	5.00	35.00	13.00	18.00	2.00	7.00	80.00	80.00	80.00	80.00	80.00	80.00
-VILLE SPRING BR 4.5 11		0-6		21AUG79	4-204	1.50	32.00	62.50	125.00	20.50	32.50	274.00	274.00	274.00	274.00	274.00	274.00
-VILLE SPRING BR 4.5 11		6-12		21AUG79	4-205	1.38	1.55	1.35	1.25	1.05	1.30	7.88	7.88	7.88	7.88	7.88	7.88
-VILLE SPRING BR 4.5 11		12-24		21AUG79	4-206	0.12	0.86	0.84	0.66	0.28	0.24	3.00	3.00	3.00	3.00	3.00	3.00
-VILLE SPRING BR 4.5 12		0-6		21AUG79		.	.	.	.	.	.	.	.	.	.	.	.
-VILLE SPRING BR 4.5 12		6-12		21AUG79		.	.	.	.	.	.	.	.	.	.	.	.
-VILLE SPRING BR 4.5 12		12-24		21AUG79		.	.	.	.	.	.	.	.	.	.	.	.
-VILLE SPRING BR 4.5 12		>24		21AUG79	4-071	0.03	0.54	0.39	0.94	0.19	0.35	2.44	2.44	2.44	2.44	2.44	2.44
-VILLE SPRING BR 4.5 12		>24		21AUG79	4-210	0.29	1.82	1.56	3.84	0.82	1.56	9.89	9.89	9.89	9.89	9.89	9.89
-VILLE SPRING BR 4.5 13		0-6		21AUG79		.	.	.	.	.	.	.	.	.	.	.	.
-VILLE SPRING BR 4.5 13		6-12		21AUG79		.	.	.	.	.	.	.	.	.	.	.	.
-VILLE SPRING BR 4.5 13		12-24		21AUG79		.	.	.	.	.	.	.	.	.	.	.	.
-VILLE SPRING BR 4.5 12.13		0-6		21AUG79	4-207	0.22	1.77	1.25	2.94	2.65	5.55	14.38	14.38	14.38	14.38	14.38	14.38
-VILLE SPRING BR 4.5 12.13		6-12		21AUG79	4-208	1.10	5.55	1.00	2.41	1.78	2.75	14.59	14.59	14.59	14.59	14.59	14.59
-VILLE SPRING BR 4.5 12.13		12-24		21AUG79	4-209	1.06	16.00	19.20	56.00	9.20	14.00	115.46	115.46	115.46	115.46	115.46	115.46
-VILLE SPRING BR 4.5 14		0-6		21AUG79	4-211	<	0.07	0.38	0.37	0.54	0.22	0.79	0.79	0.79	0.79	0.79	0.79
-VILLE SPRING BR 4.5 14		6-12		21AUG79	4-212	<	0.07	0.35	0.05	0.10	0.03	0.11	0.11	0.11	0.11	0.11	0.11
-VILLE SPRING BR 4.5 14		12-24		21AUG79	4-213	<	0.02	0.17	0.02	0.09	0.01	0.02	0.02	0.02	0.02	0.02	0.02
-VILLE SPRING BR 4.5 COMP		0-6		21AUG79	4-068	4.20	1301.00	79.70	148.00	22.20	64.00	1662.10	1662.10	1662.10	1662.10	1662.10	1662.10
-VILLE SPRING BR 4.5 COMP		6-12		21AUG79	4-069	270.00	1506.00	54.00	40.00	46.00	90.00	2000.00	2000.00	2000.00	2000.00	2000.00	2000.00
-VILLE SPRING BR 4.5 COMP		12-24		21AUG79	4-070	3.10	28.10	5.75	13.50	2.00	3.50	55.95	55.95	55.95	55.95	55.95	55.95
-VILLE SPRING BR 5.0 01		0-6		23AUG79	4-228	170.00	3100.00	960.00	2400.00	275.00	800.00	7705.00	7705.00	7705.00	7705.00	7705.00	7705.00
-VILLE SPRING BR 5.0 01		6-12		23AUG79	4-229	89.10	1430.00	902.00	1760.00	220.00	539.00	4940.10	4940.10	4940.10	4940.10	4940.10	4940.10
-VILLE SPRING BR 5.0 01		12-24		23AUG79	4-230	91.30	550.00	429.00	792.00	64.90	220.00	2147.20	2147.20	2147.20	2147.20	2147.20	2147.20
-VILLE SPRING BR 5.0 02		0-6		23AUG79	4-231	173.00	1980.00	289.00	619.00	74.30	270.00	3405.30	3405.30	3405.30	3405.30	3405.30	3405.30
-VILLE SPRING BR 5.0 02		6-12		23AUG79	4-232	5.40	85.50	92.30	169.00	20.80	60.80	433.80	433.80	433.80	433.80	433.80	433.80
-VILLE SPRING BR 5.0 02		12-24		23AUG79	4-233	0.62	16.60	38.00	10.60	0.59	2.20	68.61	68.61	68.61	68.61	68.61	68.61
-VILLE SPRING BR 5.0 COMP		0-6		23AUG79	4-112	197.00	3540.00	780.00	1540.00	260.00	500.00	6817.00	6817.00	6817.00	6817.00	6817.00	6817.00
-VILLE SPRING BR 5.0 COMP		6-12		23AUG79	4-113	70.50	1612.00	715.00	1551.00	137.00	393.00	4478.50	4478.50	4478.50	4478.50	4478.50	4478.50
-VILLE SPRING BR 5.0 COMP		12-24		23AUG79	4-114	46.70	248.00	214.00	750.00	36.00	75.10	1369.80	1369.80	1369.80	1369.80	1369.80	1369.80
-VILLE SPRING BR 5.35 01		0-6		24AUG79		.	.	.	.	.	.	.	.	.	.	.	.
-VILLE SPRING BR 5.35 01		6-12		24AUG79	4-234	19.70	97.80	10.70	18.80	3.57	16.00	166.57	166.57	166.57	166.57	166.57	166.57
-VILLE SPRING BR 5.35 01		COMP		24AUG79	4-131	279.00	2050.00	106.00	112.00	62.10	271.00	2880.10	2880.10	2880.10	2880.10	2880.10	2880.10
-VILLE SPRING BR 5.37 01		0-6		24AUG79		.	.	.	.	.	.	.	.	.	.	.	.
-VILLE SPRING BR 5.37 02		0-6		24AUG79	4-128	550.00	1513.00	65.10	90.00	60.10	280.00	2558.20	2558.20	2558.20	2558.20	2558.20	2558.20
-VILLE SPRING BR 5.37 01		6-12		24AUG79		.	.	.	.	.	.	.	.	.	.	.	.
-VILLE SPRING BR 5.37 01		12-24		24AUG79		.	.	.	.	.	.	.	.	.	.	.	.
-VILLE SPRING BR 5.37 01		COMP		24AUG79	4-125	1060.00	10909	124.00	360.00	120.00	450.00	13023	13023	13023	13023	13023	13023
-VILLE SPRING BR 5.38 01		0-6		24AUG79	4-235	2.52	52.80	7.02	14.40	1.91	7.38	96.03	96.03	96.03	96.03	96.03	96.03
-VILLE SPRING BR 5.38 01		6-12		24AUG79		.	.	.	.	.	.	.	.	.	.	.	.
-VILLE SPRING BR 5.38 01		12-24		24AUG79	4-236	184.00	1050.00	127.00	260.00	835.00	130.00	2586.00	2586.00	2586.00	2586.00	2586.00	2586.00

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK 4 - ASSESSMENTS OF DDT CONCENTRATIONS AND OTHER CONTAMINANTS IN SEDIMENTS IN REDSTONE ARSENAL VICINITY

STREAM	MILE	HORIZONTAL LOCATION	CORE LOCATION (INCHES)	DATE	LAB ID	CONCENTRATIONS OF DDT MEASURED IN SEDIMENT-UG/G										TOTAL DDT	
						DDT-O,P (UG/G)	DDT-P,P (UG/G)	DDT-O,P (UG/G)	DDT-P,P (UG/G)	DDT-O,P (UG/G)	DDT-P,P (UG/G)	DDT-O,P (UG/G)	DDT-P,P (UG/G)	DDT-O,P (UG/G)	DDT-P,P (UG/G)	MINIMUM (UG/G)	MAXIMUM (UG/G)
M-VILLE SPRING BR	5.38	01	>24	24AUG79	4-237	31.50	387.00	46.40	115.00	22.50	65.70	668.10	668.10	668.10	668.10	668.10	668.10
M-VILLE SPRING BR	5.38	01	COMP	24AUG79	4-122	176.00	1400.00	128.00	186.00	52.00	118.00	2060.00	2060.00	2060.00	2060.00	2060.00	2060.00
M-VILLE SPRING BR	5.4	01	0-6	24AUG79	4-238	34.90	190.00	8.55	23.70	6.09	17.90	281.14	281.14	281.14	281.14	281.14	281.14
M-VILLE SPRING BR	5.4	01	6-12	24AUG79													
M-VILLE SPRING BR	5.4	01	12-24	24AUG79	4-239	9.72	117.00	1.80	6.66	1.80	5.67	139.05	139.05	139.05	139.05	139.05	139.05
M-VILLE SPRING BR	5.4	01	>24	24AUG79	4-240	1.17	2.57	0.52	1.03	0.39	0.70	5.86	5.86	5.86	5.86	5.86	5.86
M-VILLE SPRING BR	5.4	01	COMP	24AUG79	4-118	17.40	130.00	4.20	8.41	2.19	7.40	169.60	169.60	169.60	169.60	169.60	169.60
M-VILLE SPRING BR	5.4	01	COMP	24AUG79	4-118A	13.80	170.00	5.29	8.70	3.10	6.31	207.20	207.20	207.20	207.20	207.20	207.20
M-VILLE SPRING BR	5.4	01	COMP	24AUG79	4-118B	16.00	106.00	4.40	8.41	2.19	7.10	144.10	144.10	144.10	144.10	144.10	144.10
M-VILLE SPRING BR	5.4	01	COMP	24AUG79	4-118C	25.10	154.00	4.49	9.41	2.20	5.89	201.09	201.09	201.09	201.09	201.09	201.09
M-VILLE SPRING BR	5.4	01	COMP	24AUG79	4-118D	17.60	135.00	3.81	7.80	2.32	7.48	174.01	174.01	174.01	174.01	174.01	174.01
M-VILLE SPRING BR	5.4	01	COMP	24AUG79	4-118E	20.50	135.00	4.40	8.40	2.88	9.71	180.89	180.89	180.89	180.89	180.89	180.89
M-VILLE SPRING BR	5.4	01	COMP	24AUG79	4-118F	18.70	220.00	4.19	9.80	2.39	8.28	263.36	263.36	263.36	263.36	263.36	263.36
M-VILLE SPRING BR	5.4	01	COMP	24AUG79	4-118G	15.00	89.70	3.81	7.61	2.00	6.61	124.73	124.73	124.73	124.73	124.73	124.73
M-VILLE SPRING BR	5.6	01	0-6	24AUG79													
M-VILLE SPRING BR	5.6	01	6-12	24AUG79													
M-VILLE SPRING BR	5.6	01	12-24	24AUG79													
M-VILLE SPRING BR	5.6	02	0-6	24AUG79													
M-VILLE SPRING BR	5.6	02	6-12	24AUG79													
M-VILLE SPRING BR	5.6	02	12-24	24AUG79													
M-VILLE SPRING BR	5.6	03	0-6	24AUG79													
M-VILLE SPRING BR	5.6	03	6-12	24AUG79													
M-VILLE SPRING BR	5.6	03	12-24	24AUG79													
M-VILLE SPRING BR	5.6	COMP	0-6	24AUG79	4-134	0.08	0.25	0.04	0.10	0.06	0.07	0.54	0.54	0.54	0.54	0.54	0.54
M-VILLE SPRING BR	5.6	COMP	6-12	24AUG79	4-135	0.05	0.13	0.03	0.07	0.06	0.11	0.39	0.39	0.39	0.39	0.39	0.39
M-VILLE SPRING BR	5.6	COMP	12-24	24AUG79	4-136	0.04	0.10	0.02	0.03	0.04	0.05	0.28	0.28	0.28	0.28	0.28	0.28
INDIAN CREEK	0.0	01	0-6	14AUG79	4-001	0.02	0.03	0.17	0.45	0.11	0.14	0.90	0.90	0.90	0.90	0.90	0.90
INDIAN CREEK	1.0	01	0-6	14AUG79													
INDIAN CREEK	1.0	01	6-12	14AUG79													
INDIAN CREEK	1.0	01	12-24	14AUG79													
INDIAN CREEK	1.0	02	0-6	14AUG79													
INDIAN CREEK	1.0	02	6-12	14AUG79													
INDIAN CREEK	1.0	02	12-24	14AUG79													
INDIAN CREEK	1.0	02	>24	14AUG79	4-005	0.02	0.02	0.04	0.05	0.05	0.02	0.11	0.11	0.11	0.11	0.11	0.11
INDIAN CREEK	1.0	03	0-6	14AUG79													
INDIAN CREEK	1.0	03	6-12	14AUG79													
INDIAN CREEK	1.0	03	12-24	14AUG79	4-002	0.04	2.20	3.40	3.10	2.00	3.00	13.74	13.74	13.74	13.74	13.74	13.74
INDIAN CREEK	1.0	COMP	0-6	14AUG79	4-003	0.03	0.55	0.62	0.98	1.80	1.20	5.18	5.18	5.18	5.18	5.18	5.18
INDIAN CREEK	1.0	COMP	6-12	14AUG79	4-004	0.04	0.17	0.28	0.72	0.50	0.57	2.38	2.38	2.38	2.38	2.38	2.38
INDIAN CREEK	1.0	COMP	12-24	14AUG79	4-006	0.03	0.22	1.20	0.73	0.55	1.40	4.13	4.13	4.13	4.13	4.13	4.13
INDIAN CREEK	2.0	01	0-6	14AUG79													
INDIAN CREEK	2.0	01	6-12	14AUG79													
INDIAN CREEK	2.0	01	12-24	14AUG79													
INDIAN CREEK	2.0	02	0-6	14AUG79													
INDIAN CREEK	2.0	02	6-12	14AUG79													
INDIAN CREEK	2.0	02	12-24	14AUG79													
INDIAN CREEK	2.0	02	>24	14AUG79	4-014	0.02	0.02	0.02	0.02	0.05	0.02	0.04	0.04	0.04	0.04	0.04	0.04
INDIAN CREEK	2.0	03	0-6	14AUG79													
INDIAN CREEK	2.0	03	6-12	14AUG79													
INDIAN CREEK	2.0	03	12-24	14AUG79	4-010	0.03	0.13	0.82	1.10	0.51	0.90	3.49	3.49	3.49	3.49	3.49	3.49

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK4 - ASSESSMENTS OF DDT CONCENTRATIONS AND OTHER CONTAMINANTS IN SEDIMENTS IN REDSTONE ARSENAL VICINITY

STREAM	MILE	LOCATION	HORIZONTAL FRACTION (INCHES)	DATE	LAB ID	CONCENTRATIONS OF DDT MEASURED IN SEDIMENT-UG/G										TOTAL DDT	
						DDT-0,P (UG/G)	DDT-P,P (UG/G)	DDT-0,P (UG/G)	DDT-P,P (UG/G)	DDT-0,P (UG/G)	DDT-P,P (UG/G)	DDT-0,P (UG/G)	DDT-P,P (UG/G)	DDT-0,P (UG/G)	DDT-P,P (UG/G)	MINIMUM (UG/G)	MAXIMUM (UG/G)
INDIAN CREEK	2.0	COMP	0-6	14AUG79	4-011	0.13	1.00	1.60	3.30	2.00	2.11	10.74	10.74	10.74	10.74	10.74	10.74
INDIAN CREEK	2.0	COMP	6-12	14AUG79	4-012	0.13	0.50	0.78	1.00	0.55	1.30	4.26	4.26	4.26	4.26	4.26	4.26
INDIAN CREEK	2.0	COMP	12-24	14AUG79	4-013	0.02	0.06	0.40	0.29	0.20	1.00	1.97	1.97	1.97	1.97	1.97	1.97
INDIAN CREEK	3.0	01	0-6	15AUG79													
INDIAN CREEK	3.0	01	6-12	15AUG79													
INDIAN CREEK	3.0	01	12-24	15AUG79													
INDIAN CREEK	3.0	01	>24	15AUG79													
INDIAN CREEK	3.0	01	0-6	15AUG79													
INDIAN CREEK	3.0	02	6-12	15AUG79													
INDIAN CREEK	3.0	02	12-24	15AUG79													
INDIAN CREEK	3.0	02	>24	15AUG79													
INDIAN CREEK	3.0	03	0-6	15AUG79													
INDIAN CREEK	3.0	03	6-12	15AUG79													
INDIAN CREEK	3.0	04	0-6	15AUG79													
INDIAN CREEK	3.0	04	6-12	15AUG79													
INDIAN CREEK	3.0	04	12-24	15AUG79	4-015	0.27	7.61	4.27	9.07	2.40	4.97	28.59	28.59	28.59	28.59	28.59	28.59
INDIAN CREEK	3.0	COMP	0-6	15AUG79	4-016	0.12	1.86	1.41	3.53	1.19	2.94	11.05	11.05	11.05	11.05	11.05	11.05
INDIAN CREEK	3.0	COMP	6-12	15AUG79	4-017	0.11	0.86	0.82	1.55	1.49	2.21	7.04	7.04	7.04	7.04	7.04	7.04
INDIAN CREEK	3.0	COMP	12-24	15AUG79	4-018	0.03	0.25	0.04	0.08	0.03	0.04	0.47	0.47	0.47	0.47	0.47	0.47
INDIAN CREEK	4.0	01	0-6	15AUG79													
INDIAN CREEK	4.0	01	6-12	15AUG79													
INDIAN CREEK	4.0	01	12-24	15AUG79													
INDIAN CREEK	4.0	02	0-6	15AUG79													
INDIAN CREEK	4.0	02	6-12	15AUG79													
INDIAN CREEK	4.0	02	12-24	15AUG79													
INDIAN CREEK	4.0	03	0-6	15AUG79													
INDIAN CREEK	4.0	03	6-12	15AUG79													
INDIAN CREEK	4.0	03	12-24	15AUG79													
INDIAN CREEK	4.0	03	>24	15AUG79	4-026	0.02	0.46	0.22	0.41	0.14	0.16	1.41	1.41	1.41	1.41	1.41	1.41
INDIAN CREEK	4.0	04	0-6	15AUG79													
INDIAN CREEK	4.0	04	6-12	15AUG79													
INDIAN CREEK	4.0	04	12-24	15AUG79													
INDIAN CREEK	4.0	05	0-6	15AUG79													
INDIAN CREEK	4.0	05	6-12	15AUG79													
INDIAN CREEK	4.0	05	12-24	15AUG79													
INDIAN CREEK	4.0	COMP	0-6	15AUG79	4-023	0.23	6.63	2.00	4.90	2.50	2.81	19.07	19.07	19.07	19.07	19.07	19.07
INDIAN CREEK	4.0	COMP	6-12	15AUG79	4-024	0.10	1.73	0.53	1.24	1.24	1.43	6.27	6.27	6.27	6.27	6.27	6.27
INDIAN CREEK	4.0	COMP	12-24	15AUG79	4-025	0.02	0.11	0.05	0.12	0.23	0.21	0.74	0.74	0.74	0.74	0.74	0.74
INDIAN CREEK	5.0	01	0-6	16AUG79													
INDIAN CREEK	5.0	01	6-12	16AUG79													
INDIAN CREEK	5.0	01	12-24	16AUG79													
INDIAN CREEK	5.0	01	>24	16AUG79	4-031	0.02	0.19	0.06	0.14	0.13	0.09	0.61	0.61	0.61	0.61	0.61	0.61
INDIAN CREEK	5.0	02	0-6	16AUG79													
INDIAN CREEK	5.0	02	6-12	16AUG79													
INDIAN CREEK	5.0	02	12-24	16AUG79													
INDIAN CREEK	5.0	02	>24	16AUG79													
INDIAN CREEK	5.0	03	0-6	16AUG79													
INDIAN CREEK	5.0	03	6-12	16AUG79													
INDIAN CREEK	5.0	03	12-24	16AUG79													
INDIAN CREEK	5.0	COMP	0-6	16AUG79	4-028	0.24	10.10	2.61	7.35	2.20	3.85	26.35	26.35	26.35	26.35	26.35	26.35
INDIAN CREEK	5.0	COMP	6-12	16AUG79	4-029	0.14	4.90	1.45	3.88	1.73	2.14	14.24	14.24	14.24	14.24	14.24	14.24
INDIAN CREEK	5.0	COMP	12-24	16AUG79	4-030	0.20	4.27	1.73	4.66	1.81	2.04	14.71	14.71	14.71	14.71	14.71	14.71

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK4 - ASSESSMENTS OF DDT CONCENTRATIONS AND OTHER CONTAMINANTS IN SEDIMENTS IN REDSTONE ARSENAL VICINITY

STREAM	MILE LOCATION	CURE	HORIZONTAL FRACTION (INCHES)	DATE	LABID	CONCENTRATIONS OF DDT MEASURED IN SEDIMENT-UG/G DDT-O,P DDT-P,P DDD-O,P DDD-P,P DDE-O,P DDE-P,P (UG/G)	MINIMUM (UG/G)	MAXIMUM (UG/G)	TOTAL DDT (UG/G)

FOOTNOTES:

- REFER TO TABLE 4-1 FOR AN ACCURATE DESCRIPTION OF EACH INDIVIDUAL SAMPLES HORIZONTAL LOCATION.
- STREAM MILE ABBREVIATIONS:
 - FP - FLOOD PLAIN
 - LCS - LOOP CROSS SECTION.
- ABSENCE OF DATA FOR INDIVIDUAL SAMPLES INDICATES ANALYSES WERE PERFORMED ON THE COMPOSITE OF THE INDIVIDUAL SAMPLES.
- MINIMUM TOTAL DDT CALCULATED BY SETTING ALL LESS THAN VALUES TO ZERO.
- MAXIMUM TOTAL DDT CALCULATED BY SETTING ALL LESS THAN VALUES TO THEIR ABSOLUTE VALUE.
- CORE FRACTION (INCHES) REFERS TO VERTICAL DEPTH BELOW SEDIMENT SURFACE.
- MULTIPLE NUMBERS IN HORIZONTAL LOCATION COLUMN INDICATE A COMPOSITE SAMPLE OF THE LISTED HORIZONTAL LOCATIONS.
- LABID NUMBERS GREATER THAN 4-140 ARE MODIFIED SAMPLES.

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
MUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK 4 - ASSESSMENTS OF DDT CONCENTRATIONS AND OTHER CONTAMINANTS IN SEDIMENTS IN REDSTONE ARSENAL VICINITY

CORE FRACTION	MILE HLOC	(INCHES)	DATE	LABID	MOISTURE	VOL-SOL	SEDIMENT SAMPLES - PHYSICAL MEASUREMENT										REMARKS
							2	2.0	0.5	0.125	0.063	0.031	0.016	0.008	0.004	0.002	
-----BAREN FORK CREEK -----																	
1.2	01	COMP	15AUG79	4-027	48.08	7.47	100.00	99.71	98.36	97.30	96.33	92.44	80.76	67.14	56.43	48.65	38.92
-----M-VILLE SPRING BRANCH -----																	
FP	01	0-6	30AUG79	4-140	24.72	7.32	98.26	94.43	71.21	66.71	65.38	60.04	53.37	46.70	42.03	34.69	33.36
FP01	01	0-6	23AUG79	4-098	18.74	6.51	96.82	87.16	78.07	72.54	70.36	60.93	47.15	35.54	26.84	20.31	14.51
FP02	01	0-6	23AUG79	4-099	20.42	6.02	100.00	99.43	90.77	85.36	84.51	77.68	63.17	50.36	41.83	35.00	29.88
FP03	01	0-6	23AUG79	4-100	44.02	8.11	99.73	91.91	69.46	64.28	64.28	59.78	53.35	43.07	36.84	31.50	24.43
FP04	01	0-6	23AUG79	4-101	17.58	5.39	99.82	98.29	83.40	76.84	73.00	63.01	47.64	36.88	31.50	26.13	21.52
FP05	01	0-6	23AUG79	4-102	20.54	4.65	100.00	98.60	83.30	76.99	83.95	74.52	58.25	46.26	37.69	28.27	27.41
FP06	01	0-6	23AUG79	4-103	27.80	7.30	99.86	98.18	87.53	81.65	60.42	57.33	51.17	44.39	35.14	27.74	21.58
FP07	01	0-6	23AUG79	4-104	25.08	3.69	100.00	91.96	65.02	60.21	59.01	53.59	45.76	39.74	35.52	32.51	29.50
FP08	01	0-6	23AUG79	4-105	15.22	6.80	90.07	83.85	74.22	72.15	72.15	64.94	50.50	36.80	28.14	23.81	20.20
FP09	01	0-6	23AUG79	4-106	18.92	8.72	100.00	99.50	86.49	83.25	81.58	76.59	62.44	54.57	42.27	32.28	24.60
FP10	01	0-6	23AUG79	4-107	28.15	10.35	95.23	89.75	79.71	76.86	76.86	73.79	65.33	54.57	42.27	32.28	24.60
FP11	01	0-6	23AUG79	4-108	32.04	9.12	100.00	99.03	93.68	91.90	91.90	90.06	83.63	71.68	56.98	38.60	31.25
-CS	COMP	0-6	23AUG79	4-109	47.14	10.10	98.66	95.69	79.01	75.46	75.46	70.93	62.63	52.82	43.77	34.98	31.69
-CS	COMP	6-12	23AUG79	4-110	50.73	13.14	99.79	99.27	96.15	94.17	94.17	93.23	85.69	74.39	61.21	49.91	39.55
-CS	COMP	12-24	23AUG79	4-111	40.58	10.16	100.00	100.00	97.25	96.50	95.54	94.57	89.74	81.06	67.55	55.97	45.36
-CS	COMP	12-24	23AUG79	4-111	39.79	9.91	95.76	92.53	88.88	87.52	86.64	85.77	81.39	73.52	62.14	50.76	40.26
3.0	COMP	0-6	16AUG79	4-031	45.02	7.57	99.45	97.26	83.73	80.80	79.99	75.14	64.64	50.90	40.40	32.32	25.86
3.0	COMP	6-12	16AUG79	4-033	37.55	7.30	95.21	91.15	78.58	73.23	72.50	68.84	60.78	48.33	38.08	30.76	24.17
3.0	COMP	12-24	16AUG79	4-034	41.25	8.55	100.00	99.58	89.56	87.79	87.79	84.28	74.62	58.82	44.77	35.12	27.21
1.0	COMP	0-6	16AUG79	4-036	52.26	8.81	100.00	99.49	88.21	83.49	82.66	75.98	65.12	55.10	46.75	37.57	30.89
1.0	COMP	6-12	16AUG79	4-039	48.57	7.53	99.62	98.43	95.16	90.52	89.61	85.09	74.23	61.55	51.60	44.35	35.30
1.0	COMP	12-24	16AUG79	4-040	41.40	7.72	99.91	98.54	95.98	93.93	92.99	90.17	80.78	67.63	55.42	44.15	34.75
1.0	COMP	0-6	16AUG79	4-041	31.78	4.83	98.13	89.98	85.15	81.11	80.60	78.04	68.40	53.12	44.39	35.66	24.01
1.7	COMP	0-6	16AUG79	4-044	42.50	9.79	96.68	95.96	79.62	72.77	71.31	68.40	61.85	53.12	44.39	33.66	24.01
1.7	COMP	6-12	16AUG79	4-045	34.00	6.34	99.87	96.45	82.01	77.55	76.77	73.67	66.69	58.16	48.08	40.33	32.57
1.7	COMP	12-24	17AUG79	4-046	29.14	6.51	99.85	99.41	87.81	83.60	81.93	76.08	64.37	54.34	45.14	38.46	31.77
1.7	COMP	0-6	17AUG79	4-047	27.99	6.67	97.76	95.24	85.44	81.91	81.09	76.18	63.89	52.42	45.05	37.68	31.13
2.0	COMP	0-6	17AUG79	4-048	33.58	6.07	92.66	85.62	76.86	71.36	69.93	66.52	40.46	34.39	29.33	25.28	20.73
2.0	COMP	6-12	17AUG79	4-049	32.38	6.14	93.35	86.94	76.86	71.36	69.93	67.08	59.23	50.67	43.53	37.11	32.11
3.0	COMP	0-6	20AUG79	4-060	40.30	9.06	97.78	94.32	88.73	85.98	85.98	84.26	78.52	65.34	54.17	43.05	36.11
3.0	COMP	6-12	20AUG79	4-061	40.14	8.98	96.15	94.31	88.73	85.98	85.98	84.26	78.52	65.34	54.17	43.05	36.11
3.0	COMP	12-24	20AUG79	4-062	42.84	11.32	100.00	96.11	87.03	81.93	81.11	81.11	76.19	64.72	52.44	42.75	34.37
3.0	COMP	0-6	20AUG79	4-063	27.42	4.30	96.27	90.08	58.75	45.17	44.72	43.81	40.20	34.78	29.36	24.84	21.23
3.5	COMP	0-6	17AUG79	4-053	44.38	10.56	97.25	91.65	80.38	77.70	76.92	75.37	69.15	62.16	52.06	42.74	34.19
3.5	COMP	6-12	17AUG79	4-054	39.06	9.03	97.74	92.90	78.86	76.60	75.83	74.30	68.17	58.22	48.26	40.60	32.17
3.5	COMP	12-24	17AUG79	4-055	34.82	7.92	98.10	94.68	92.70	91.25	90.34	86.69	78.65	62.05	50.19	41.06	31.94
4.0	COMP	0-6	20AUG79	4-056	37.66	8.53	98.83	96.11	75.74	73.10	71.64	68.71	62.14	51.17	42.40	35.09	28.51
4.0	COMP	6-12	20AUG79	4-057	32.97	7.38	98.26	95.46	77.47	75.43	74.68	72.41	66.38	55.82	46.01	37.72	30.93
4.0	COMP	12-24	20AUG79	4-058	33.01	6.43	98.95	96.92	75.51	71.08	69.66	65.39	56.15	45.49	38.38	32.70	27.72
4.0	COMP	0-6	20AUG79	4-059	34.81	8.65	96.23	93.72	92.54	91.51	89.68	87.85	78.70	64.06	52.16	43.92	37.52
4.0	COMP	6-12	20AUG79	4-060	32.40	8.49	95.26	92.81	90.98	90.06	87.36	79.25	63.94	51.33	41.43	33.32	30.78
4.2	COMP	0-6	22AUG79	4-075	47.80	10.34	96.58	91.59	75.93	73.29	72.56	71.82	65.96	57.17	47.64	38.11	30.78

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK 4 - ASSESSMENTS OF DDT CONCENTRATIONS AND OTHER CONTAMINANTS IN SEDIMENTS IN REDSTONE ARSENAL VICINITY

CORE FRACTION	MILE	MLOC	(INCHES)	DATE	LAB	MOISTURE	VOL-SOL	SEDIMENT SAMPLES - PHYSICAL MEASUREMENT					REMARKS			
								PERCENT SOLIDS	FINER THAN (MM)	0.004	0.002	0.001				
4-2	COMP	0-6	22AUG79	4-075				73.29	72.56	71.09	64.50	54.97	46.17	37.38	29.32	P.S.
4-2	COMP	0-12	22AUG79	4-076	8.31	34.58	97.61	95.06	83.01	80.54	78.12	70.07	58.79	48.32	38.66	31.41
4-2	COMP	12-24	22AUG79	4-077	7.21	33.33	98.63	97.10	81.45	78.47	76.12	69.05	59.64	50.22	42.37	32.17
4-2	COMP	>24	22AUG79	4-078	6.82	34.71	97.15	95.77	59.54	57.78	56.05	47.96	39.29	31.20	25.42	21.38
4-2	COMP	>24	22AUG79	4-076	6.92	34.82	98.62	96.62	60.63	58.40	57.82	56.06	49.06	37.71	26.28	21.61
4-2	COMP	0-6	22AUG79	4-087	10.71	60.35	98.51	95.03	92.17	89.93	88.13	80.94	71.94	62.05	51.26	42.27
4-2	COMP	0-6	22AUG79	4-083	10.30	43.90	93.84	84.24	75.00	72.74	72.01	69.10	62.56	56.01	45.10	29.10
4-2	COMP	0-6	22AUG79	4-084	7.16	38.77	90.27	88.49	68.54	64.32	63.68	61.75	56.60	48.88	39.88	27.01
4-2	COMP	0-6	22AUG79	4-085	53.55		94.98	90.07	76.77	73.83	72.35	67.19	60.54	49.47	39.87	32.49
4-2	COMP	0-6	22AUG79	4-086	42.68		92.61	87.22	54.94	53.28	52.75	51.68	47.95	41.03	28.77	24.51
4-2	COMP	0-6	22AUG79	4-087	53.19		98.68	96.04	92.39	91.27	90.36	87.62	81.23	69.37	58.41	48.37
4-2	COMP	6-12	22AUG79	4-088	39.33		93.43	90.14	87.78	86.43	84.70	83.84	78.65	68.28	57.04	45.81
4-2	COMP	6-12	22AUG79	4-089	32.27		86.34	83.59	82.88	80.60	79.79	77.38	70.12	61.26	49.97	37.16
4-2	COMP	6-12	22AUG79	4-090	32.47		83.33	82.37	70.15	67.41	66.74	66.06	62.69	54.60	44.49	34.66
4-2	COMP	6-12	22AUG79	4-091	43.10		99.82	99.29	74.51	71.49	70.78	69.35	63.63	55.05	44.32	36.46
4-2	COMP	6-12	22AUG79	4-091	43.29		99.08	97.14	71.26	69.59	68.20	63.33	54.98	45.23	36.88	29.92
4-2	COMP	6-12	22AUG79	4-092	39.97		94.83	99.48	94.16	91.55	89.72	82.40	71.41	59.51	50.35	43.03
4-2	COMP	12-24	22AUG79	4-093	35.42		99.84	98.98	97.64	95.00	93.69	91.78	87.00	77.44	65.96	54.49
4-2	16	12-24	22AUG79	4-094	36.48		99.61	96.31	31.79	29.59	29.00	26.04	22.49	18.94	16.57	14.80
4-2	COMP	12-24	22AUG79	4-095	31.07		99.49	99.13	83.75	82.08	77.05	66.16	56.11	46.90	39.36	34.34
4-2	16	>24	22AUG79	4-096	36.16		99.84	97.36	33.60	30.72	30.41	29.80	27.03	22.43	17.82	14.44
4-2	18	>24	22AUG79	4-097	32.24		99.77	99.24	95.01	94.10	92.22	87.51	74.24	58.34	46.11	31.99
4-5	COMP	0-6	21AUG79	4-068	55.67		94.54	89.86	76.39	75.63	72.57	64.53	54.24	45.07	36.67	28.26
4-5	COMP	6-12	21AUG79	4-069	54.19		96.87	91.71	74.37	72.09	69.93	62.72	53.35	43.25	35.32	28.84
4-5	COMP	12-24	21AUG79	4-070	31.91		97.70	94.28	68.80	65.38	62.76	55.57	45.11	37.27	30.73	25.50
4-5	12	>24	21AUG79	4-071	41.85		98.90	96.95	92.37	90.08	88.28	86.48	76.57	58.55	46.84	35.13
5-0	COMP	0-6	23AUG79	4-112	40.46		100.00	99.82	82.04	78.55	73.84	65.70	53.41	45.56	38.49	32.21
5-0	COMP	6-12	23AUG79	4-113	46.70		99.52	99.04	92.99	91.26	88.52	79.40	66.62	54.76	46.54	31.03
5-0	COMP	12-24	23AUG79	4-114	41.29		100.00	99.57	93.60	92.04	86.52	73.63	59.83	47.86	41.42	32.21
5-35	01	COMP	24AUG79	4-131	30.95		100.00	99.04	91.40	89.56	88.66	84.19	72.54	61.80	52.84	39.41
5-37	01	COMP	24AUG79	4-125	48.17		99.90	99.41	93.46	91.12	82.92	69.25	56.49	47.38	40.09	32.80
5-37	02	0-6	24AUG79	4-128	27.83		99.65	97.32	88.43	85.04	83.34	77.39	66.33	55.28	48.47	37.42
5-38	01	COMP	24AUG79	4-122	42.25		100.00	100.00	97.20	92.73	91.80	83.46	70.47	58.42	49.15	35.24
5-4	01	COMP	24AUG79	4-118	32.76		83.35	73.08	51.04	49.35	48.86	46.39	40.96	33.56	28.13	19.74
5-6	COMP	0-6	24AUG79	4-134	45.90		100.00	99.62	89.46	87.06	80.97	67.91	53.11	43.53	37.44	29.60
5-6	COMP	6-12	24AUG79	4-135	39.90		100.00	100.00	95.51	92.57	91.75	79.32	62.12	48.74	39.18	32.49
5-6	COMP	12-24	24AUG79	4-136	39.35		99.83	99.50	94.68	93.93	92.05	79.84	61.99	46.96	38.51	31.94
5-6	COMP	12-24	24AUG79	4-136	38.46		99.92	99.84	94.23	94.23	91.40	79.15	61.25	47.12	38.63	31.10
INDIAN CREEK																
0-0	01	0-6	14AUG79	4-001	34.18		99.61	98.82	92.04	88.65	85.99	79.78	69.15	55.85	45.21	37.23
1-0	COMP	0-6	14AUG79	4-002	50.77		99.40	98.60	96.29	93.17	92.23	88.51	77.33	64.29	53.11	44.72
1-0	COMP	6-12	14AUG79	4-003	43.49		100.00	99.82	97.68	95.81	94.85	91.98	82.40	67.07	53.65	44.07
1-0	COMP	12-24	14AUG79	4-004	42.11		99.57	98.20	96.57	94.60	92.71	91.36	84.78	64.33	51.08	41.62
1-0	COMP	12-24	14AUG79	4-004	42.20		100.00	99.67	97.47	95.27	94.32	92.71	81.36	64.78	51.45	40.97
1-0	02	>24	14AUG79	4-005	42.44		100.00	100.00	98.82	96.82	94.82	91.83	74.86	58.89	44.92	38.93
1-0	FP	0-6	14AUG79	4-006	38.64		100.00	99.45	97.03	96.09	95.13	93.21	84.56	68.22	54.77	43.24
2-0	FP	0-6	14AUG79	4-010	51.83		99.58	98.52	95.87	94.07	93.13	90.31	81.04	67.73	54.56	44.21
2-0	COMP	0-6	14AUG79	4-011	48.88		99.91	99.63	92.59	89.96	89.96	86.36	74.67	59.37	49.48	41.38
2-0	COMP	6-12	14AUG79	4-012	40.49		100.00	99.74	87.60	84.76	83.91	79.67	70.35	56.79	46.62	38.51

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK 4 - ASSESSMENTS OF DDT CONCENTRATIONS AND OTHER CONTAMINANTS IN SEDIMENTS IN REDSTONE ARSENAL VICINITY

CORE FRACTION	DATE	LABID	SEDIMENT SAMPLES - PHYSICAL MEASUREMENT		PERCENT SOLIDS FINER THAN (MM)										REMARKS	
			% MOISTURE	% VOL-SOL	2.0	0.5	0.125	0.063	0.031	0.016	0.008	0.004	0.002	0.001		0.0005
2.0 COMP 12-24	14AUG79	4-013	40.01	6.85	100.00	100.00	96.09	94.98	93.08	88.33	78.83	62.69	51.29	41.79	33.24	
2.0 02	14AUG79	4-014	45.16	7.34	100.00	100.00	99.55	99.10	97.12	95.14	85.23	69.37	54.50	42.61	32.70	
3.0 COMP 0-6	15AUG79	4-015	54.07	8.76	99.79	98.38	94.76	84.64	83.79	79.56	70.25	57.56	50.78	40.63	33.86	
3.0 COMP 6-12	15AUG79	4-016	44.44	7.93	99.74	98.54	94.43	91.01	90.10	87.37	77.36	62.80	50.97	41.86	32.76	
3.0 COMP 12-24	15AUG79	4-017	48.49	7.64	99.72	99.34	95.49	92.29	90.44	85.83	76.60	63.68	53.53	43.38	35.99	
3.0 COMP 12-24	15AUG79	4-017	48.53	7.15	99.62	98.28	93.39	90.32								P.S.
3.0 COMP 24	15AUG79	4-018	45.94	9.92	99.65	99.13	95.20	92.75	92.75	90.90	81.62	64.92	51.01	39.88	30.61	
3.0 COMP 24	15AUG79	4-018						92.75	91.82	89.04	76.83	62.14	48.23	38.03	29.68	
3.0 COMP 0-6	15AUG79	4-023	48.46	3.72	100.00	99.32	81.70	77.32	75.77	71.91	62.63	53.35	44.85	37.89	30.93	
3.0 COMP 6-12	15AUG79	4-024	44.05	5.94	99.65	98.76	84.12	78.44	76.87	72.16	63.54	51.77	43.14	36.08	28.24	
3.0 COMP 12-24	15AUG79	4-025	42.24	6.21	100.00	99.57	91.77	89.89	87.19	84.50	77.31	62.92	50.34	41.35	32.36	
3.0 03	15AUG79	4-026	46.47	7.68	100.00	99.73	96.72	98.17	97.19	94.24	84.43	61.85	52.03	42.21	32.40	
3.0 COMP 0-6	16AUG79	4-028	36.86	5.76	96.72	90.15	74.38	69.98	69.28	65.01	56.68	48.99	43.39	41.99	33.59	
3.0 COMP 6-12	16AUG79	4-029	35.49	5.40	99.29	97.63	82.42	78.93	78.14	74.19	63.93	52.09	41.83	33.94	26.84	
3.0 COMP 12-24	16AUG79	4-030	37.95	6.09	99.28	97.60	85.90	81.97	81.15	75.41	63.94	51.64	41.80	35.25	28.69	
3.0 01	16AUG79	4-031	41.64	7.07	100.00	99.91	98.29	97.61	96.63	92.73	79.06	61.49	46.85	36.12	27.33	
3.0 01	16AUG79	4-031	41.94	7.06	100.00	99.74	98.44	98.01	97.03	92.13	74.39	60.77	48.02	38.22	27.44	

FOOTNOTES:

1. REFER TO TABLE 4-1 FOR AN ACCURATE DESCRIPTION OF EACH INDIVIDUAL SAMPLES HORIZONTAL LOCATION (HLOC).
2. STREAM MILE ABBREVIATIONS:

FP - FLOOD PLAIN

LCS - LOOP CROSS SECTION

3. THE ABBREVIATION (COMP) REFERS TO A COMPOSITED SAMPLE.

THE ABBREVIATION (P.S.) REFERS TO A PRECISION SAMPLE.

4. CORE FRACTION (INCHES) REFERS TO VERTICAL DEPTH BELOW SEDIMENT SURFACE.

PRIORITY POLLUTANT DATA

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
MUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK 4 - PRIORITY POLLUTANT/ELUTRIATE TEST DATA CONCENTRATIONS

COMPOUND NAME	SEDIMENT (UG/G)	DILUTION ELUTRIATE	
		WATER (UG/L)	WATER (UG/L)
M-VILLE SPRING BRANCH 3.0, SAMPLED 20 AUG 79			
	4-060	4-064	4-065
1. ACENAPHTHENE	< 2.00	< 27.00	< 25.00
5. BENZIDINE	< 2.00	< 27.00	< 25.00
8. 1,2,4-TRICHLOROBENZENE	< 2.00	< 27.00	< 25.00
9. HEXACHLOROBENZENE	< 2.00	< 27.00	< 25.00
12. HEXACHLOROETHANE	< 2.00	< 27.00	< 25.00
17. BIS(1-CHLOROETHYL) ETHER	< 2.00	< 27.00	< 25.00
18. BIS(12-CHLOROETHYL) ETHER	< 2.00	< 27.00	< 25.00
19. 2-CHLOROETHYL VINYL ETHER (MIXED)	< 2.00	< 27.00	< 25.00
20. 2-CHLORONAPHTHALENE	< 2.00	< 27.00	< 25.00
21. 2,4,6-TRICHLOROPHENOL	< 0.25	< 27.00	< 25.00
22. PARACHLOROMETA CRESOL	< 0.25	< 27.00	< 25.00
24. 2-CHLOROPHENOL	< 2.00	< 27.00	< 25.00
25. 1,2-DICHLOROBENZENE	< 2.00	< 27.00	< 25.00
26. 1,3-DICHLOROBENZENE	< 2.00	< 27.00	< 25.00
27. 1,4-DICHLOROBENZENE	< 2.00	< 27.00	< 25.00
28. 3,3'-DICHLOROBENZIDINE	< 2.00	< 27.00	< 25.00
31. 2,4-DICHLOROPHENOL	< 0.25	< 27.00	< 25.00
34. 2,4-DIMETHYLPHENOL	< 2.00	< 27.00	< 25.00
35. 2,4-DINITROTOLUENE	< 2.00	< 27.00	< 25.00
36. 2,6-DINITROTOLUENE	< 2.00	< 27.00	< 25.00
37. 1,2-DIPHENYLHYDRAZINE	< 2.00	< 27.00	< 25.00
39. FLUORANTHENE	< 2.00	< 27.00	< 25.00
40. 4-CHLOROPHENYL PHENYL ETHER	< 2.00	< 27.00	< 25.00
41. 4-BROMOPHENYL PHENYL ETHER	< 2.00	< 27.00	< 25.00
42. BIS(2-CHLOROISOPROPYL) ETHER	< 2.00	< 27.00	< 25.00
43. BIS(2-CHLOROETHOXY) METHANE	< 2.00	< 27.00	< 25.00
52. HEXACHLOROBUTADIENE	< 2.00	< 27.00	< 25.00
53. HEXACHLOROCYCLOPENTADIENE	< 2.00	< 27.00	< 25.00
54. ISOPHTHORENE	< 2.00	< 27.00	< 25.00
55. NAPHTHALENE	< 2.00	< 27.00	< 25.00
56. NITROBENZENE	< 2.00	< 27.00	< 25.00
57. 2-NITROPHENOL	< 0.25	< 27.00	< 25.00
58. 4-NITROPHENOL	< 0.25	< 27.00	< 25.00
59. 2,4-DINITROPHENOL	< 0.25	< 27.00	< 25.00
60. 4,6-DINITRO-O-CRESOL	< 0.25	< 27.00	< 25.00
61. N-NITROSODIMETHYLAMINE	< 2.00	< 27.00	< 25.00
62. N-NITROSODIPHENYLAMINE	< 2.00	< 27.00	< 25.00
63. N-NITROSODI-N-PROPYLAMINE	< 2.00	< 27.00	< 25.00
64. PENTACHLOROPHENOL	< 0.25	< 27.00	< 25.00
65. PHENOL	< 0.25	< 27.00	< 25.00
66. BIS(2-ETHYLHEXYL) PHTHALATE	< 2.00	< 27.00	< 25.00
67. BUTYL BENZYL PHTHALATE	< 2.00	< 27.00	< 25.00
68. DI-N-BUTYL PHTHALATE	< 2.00	< 27.00	< 25.00
69. DI-N-OCTYL PHTHALATE	< 2.00	< 27.00	< 25.00
70. DIETHYL PHTHALATE	< 2.00	< 27.00	< 25.00
71. DIMETHYL PHTHALATE	< 2.00	< 27.00	< 25.00

ENGINEERING AND ENVIRONMENTAL STUDY OF ODT CONTAMINATION
MUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK 4 - PRIORITY POLLUTANT/ELUTRIATE TEST DATA CONCENTRATIONS

COMPOUND NAME	SEDIMENT (UG/G)	DILUTION ELUTRIATE	
		WATER (UG/L)	WATER (UG/L)
72. BENZO(A)ANTHRACENE (1,2-BENZANTHRACENE)	< 2.00	< 27.00	< 25.00
73. BENZO(A)PYRENE (3,4-BENZOPYRENE)	< 2.00	< 27.00	< 25.00
74. 3,4-BENZOFLURANTHENE	< 2.00	< 27.00	< 25.00
75. BENZO(K)FLURANTHANE	< 2.00	< 27.00	< 25.00
76. CHRYSENE	< 2.00	< 27.00	< 25.00
77. ACENAPHTHYLENE	< 2.00	< 27.00	< 25.00
78. ANTHRACENE	< 2.00	< 27.00	< 25.00
79. BENZO(GH)PERYLENE (1,12-BENZOPERYLENE)	< 2.00	< 27.00	< 25.00
80. FLUORENE	< 2.00	< 27.00	< 25.00
81. PHENANTHRENE	< 2.00	< 27.00	< 25.00
82. DIBENZO(A,H)ANTHRACENE (1,2,5,6-DIBENZANTHRACENE)	< 2.00	< 27.00	< 25.00
83. IDENO(1,2,3-CD)PYRENE (2,3-O-PHENYLENEPYRENE)	< 2.00	< 27.00	< 25.00
84. PYRENE	< 4.00	< 1.00	< 1.00
89. ALDRIN	< 4.00	< 1.00	< 1.00
90. DIELDRIN	< 4.00	< 1.00	< 1.00
91. CHLORDANE (TECH. MIXTURE AND METABOLITES)	< 4.00	< 1.00	< 1.00
92. 4,4'-DDT	380.00	< 1.00	7.70
93. 4,4'-DDE(P,P'DDX)	35.00	< 0.50	< 0.50
94. 4,4'-DDD(P,P'-TDE)	175.00	2.50	5.10
95. A-ENDOSULFAN-ALPHA	< 4.00	< 1.00	< 1.00
96. B-ENDOSULFAN-BETA	< 4.00	< 1.00	< 1.00
97. ENDOSULFAN SULFATE	< 4.00	< 1.00	< 1.00
98. ENOXIN	< 4.00	< 1.00	< 1.00
99. ENOXIN ALDEHYDE	< 4.00	< 1.00	< 1.00
00. HEPTACHLOR	< 4.00	< 1.00	< 1.00
01. HEPTACHLOR EPOXIDE	< 4.00	< 1.00	< 1.00
02. A-BHC-ALPHA (HEXACHLOROCYCLOHEXANE)	< 4.00	< 1.00	< 1.00
03. B-BHC-BETA (HEXACHLOROCYCLOHEXANE)	< 4.00	< 1.00	< 1.00
04. 4-BHC-DELTA (HEXACHLOROCYCLOHEXANE)	< 4.00	< 1.00	< 1.00
05. G-BHC-DELTA (HEXACHLOROCYCLOHEXANE)	< 4.00	< 1.00	< 1.00
06. PCB-1242 (AROCOR 1242)	< 4.00	< 1.00	< 1.00
07. PCB-1254 (AROCOR 1254)	< 4.00	< 1.00	< 1.00
08. PCB-1221 (AROCOR 1221)	< 4.00	< 1.00	< 1.00
09. PCB-1232 (AROCOR 1232)	< 4.00	< 1.00	< 1.00
10. PCB-1248 (AROCOR 1248)	< 4.00	< 1.00	< 1.00
11. PCB-1260 (AROCOR 1260)	< 4.00	< 1.00	< 1.00
12. PCB-1016 (AROCOR 1016)	< 4.00	< 1.00	< 1.00
13. TURAPHENE	< 4.00	< 1.00	< 1.00

INDIAN CREEK 3.0, SAMPLED 15 AUG 79

COMPOUND NAME	SEDIMENT (UG/G)	DILUTION ELUTRIATE	
		WATER (UG/L)	WATER (UG/L)
1. ACENAPHTHENE	< 2.50	< 25.00	< 25.00
5. BENZIDINE	< 2.50	< 25.00	< 25.00
8. 1,2,4-TRICHLOROBENZENE	< 2.50	< 25.00	< 25.00
9. HEXACHLOROBENZENE	< 2.50	< 25.00	< 25.00
12. HEXACHLOROETHANE	< 2.50	< 25.00	< 25.00
17. BIS(1,1-DICHLOROMETHYL) ETHER	< 2.50	< 25.00	< 25.00
18. BIS(2-CHLOROETHYL) ETHER	< 2.50	< 25.00	< 25.00
19. 2-CHLOROETHYL VINYL ETHER (MIXED)	< 2.50	< 25.00	< 25.00

ENGINEERING AND ENVIRONMENTAL STUDY OF ODT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK 4 - PRIORITY POLLUTANT/ELUTRIATE TEST DATA CONCENTRATIONS

COMPOUND NAME	SEDIMENT (UG/G)	DILUTION WATER (UG/L)	ELUTRIATE WATER (UG/L)
20. 2-CHLORONAPHTHALENE	< 2.50	< 25.00	< 25.00
21. 2,4,6-TRICHLOROPHENOL	< 0.25	< 25.00	< 25.00
22. PARACHLOROMETA CRESOL	< 0.25	< 25.00	< 25.00
24. 2-CHLOROPHENOL	< 0.25	< 25.00	< 25.00
25. 1,2-DICHLOROBENZENE	< 2.50	< 25.00	< 25.00
26. 1,3-DICHLOROBENZENE	< 2.50	< 25.00	< 25.00
27. 1,4-DICHLOROBENZENE	< 2.50	< 25.00	< 25.00
28. 3,3'-DICHLOROBENZIDINE	< 2.50	< 25.00	< 25.00
31. 2,4-DICHLOROPHENOL	< 0.25	< 25.00	< 25.00
34. 2,4-DIMETHYLPHENOL	< 0.25	< 25.00	< 25.00
35. 2,4-DINITROTOLUENE	< 2.50	< 25.00	< 25.00
36. 2,6-DINITROTOLUENE	< 2.50	< 25.00	< 25.00
37. 1,2-DIPHENYLHYDRAZINE	< 2.50	< 25.00	< 25.00
39. FLUORANTHENE	< 2.50	< 25.00	< 25.00
40. 4-CHLOROPHENYL PHENYL ETHER	< 2.50	< 25.00	< 25.00
41. 4-BROMOPHENYL PHENYL ETHER	< 2.50	< 25.00	< 25.00
42. BIS(2-CHLORISOPROPYL) ETHER	< 2.50	< 25.00	< 25.00
43. BIS(2-CHLORODETHYL) METHANE	< 2.50	< 25.00	< 25.00
52. HEXACHLOROBUTADIENE	< 2.50	< 25.00	< 25.00
53. HEXACHLOROCYCLOPENTADIENE	< 2.50	< 25.00	< 25.00
54. ISOPHORONE	< 2.50	< 25.00	< 25.00
55. NAPHTHALENE	< 2.50	< 25.00	< 25.00
56. NITROBENZENE	< 2.50	< 25.00	< 25.00
57. 2-NITROPHENOL	< 0.25	< 25.00	< 25.00
58. 4-NITROPHENOL	< 0.25	< 25.00	< 25.00
59. 2,4-DINITROPHENOL	< 0.25	< 25.00	< 25.00
60. 4,6-DINITRO-O-CRESOL	< 0.25	< 25.00	< 25.00
61. N-NITROSODIMETHYLAMINE	< 2.50	< 25.00	< 25.00
62. N-NITROSODIPHENYLAMINE	< 2.50	< 25.00	< 25.00
63. N-NITROSODI-N-PROPYLAMINE	< 2.50	< 25.00	< 25.00
64. PENTACHLOROPHENOL	< 0.25	< 25.00	< 25.00
65. PHENOL	< 0.25	< 25.00	< 25.00
66. BIS(2-ETHYLHEXYL) PHTHALATE	< 2.50	< 25.00	< 25.00
67. BUTYL BENZYL PHTHALATE	< 2.50	< 25.00	< 25.00
68. DI-N-BUTYL PHTHALATE	< 2.50	< 25.00	< 25.00
69. DI-N-OCTYL PHTHALATE	< 2.50	< 25.00	< 25.00
70. DIETHYL PHTHALATE	< 2.50	< 25.00	< 25.00
71. DIMETHYL PHTHALATE	< 2.50	< 25.00	< 25.00
72. BENZIDIAANTHRACENE (1,2-BENZANTHRACENE)	< 2.50	< 25.00	< 25.00
73. BENZIDIA PYRENE (3,4-BENZOPYRENE)	< 2.50	< 25.00	< 25.00
74. 3,4-BENZODIFLUORANTHENE	< 2.50	< 25.00	< 25.00
75. BENZO (K) FLUORANTHENE	< 2.50	< 25.00	< 25.00
76. CHRYSENE	< 2.50	< 25.00	< 25.00
77. ACENAPHTHYLENE	< 2.50	< 25.00	< 25.00
78. ANTHRACENE	< 2.50	< 25.00	< 25.00
79. BENZO (GHI) PERYLENE (1,12-BENZOPERYLENE)	< 2.50	< 25.00	< 25.00
80. FLUORENE	< 2.50	< 25.00	< 25.00
81. PHENANTHRENE	< 2.50	< 25.00	< 25.00
82. DIBENZO (A,H) ANTHRACENE (1,2,5,6-DIBENZANTHRACENE)	< 2.50	< 25.00	< 25.00
83. IDENO (1,2,3-CD) PYRENE (2,3-D-PHENYLENEPYRENE)	< 2.50	< 25.00	< 25.00

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
MUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK 4 - PRIORITY POLLUTANT/ELUTRIATE TEST DATA CONCENTRATIONS

COMPOUND NAME	SEDIMENT (UG/G)	DILUTION WATER (UG/L)	ELUTRIATE WATER (UG/L)
84. PYRENE	< 2.50	< 25.00	< 25.00
89. ALDRIN	< 0.25	< 1.00	< 1.00
90. DIELDRIN	< 0.25	< 1.00	< 1.00
91. CHLORDANE (TECH. MIXTURE AND METABOLITES)	< 0.25	< 1.00	< 1.00
92. 4,4'-DDT	13.00	< 1.00	< 1.00
93. 4,4'-DDE (P, P'DDX)	4.00	< 0.50	< 0.50
94. 4,4'-DDD (P, P' -TDE)	11.00	0.86	< 0.70
95. A-ENDOSULFAN-ALPHA	< 0.25	< 1.00	< 1.00
96. B-ENDOSULFAN-BETA	< 0.25	< 1.00	< 1.00
97. ENDOSULFAN SULFATE	< 0.25	< 1.00	< 1.00
98. ENDORIN	< 0.25	< 1.00	< 1.00
99. ENDORIN ALDEHYDE	< 0.25	< 1.00	< 1.00
00. HEPTACHLOR	< 0.25	< 1.00	< 1.00
01. HEPTACHLOR EPOXIDE	< 0.25	< 1.00	< 1.00
02. A-SHC-ALPHA (HEXACHLOROCYCLOHEXANE)	< 0.25	< 1.00	< 1.00
03. B-SHC-BETA (HEXACHLOROCYCLOHEXANE)	< 0.25	< 1.00	< 1.00
04. 4-SHC-(LINDANE)-GAMMA (HEXACHLOROCYCLOHEXANE)	< 0.25	< 1.00	< 1.00
05. G-SHC-DELTA (HEXACHLOROCYCLOHEXANE)	< 0.25	< 1.00	< 1.00
06. PCB-1242 (AROCOR 1242)	< 0.25	< 1.00	< 1.00
07. PCB-1254 (AROCOR 1254)	< 0.25	< 1.00	< 1.00
08. PCB-1221 (AROCOR 1221)	< 0.25	< 1.00	< 1.00
09. PCB-1232 (AROCOR 1232)	< 0.25	< 1.00	< 1.00
10. PCB-1248 (AROCOR 1248)	< 0.25	< 1.00	< 1.00
11. PCB-1260 (AROCOR 1260)	< 0.25	< 1.00	< 1.00
12. PCB-1016 (AROCOR 1016)	< 0.25	< 1.00	< 1.00
13. TOXAPHENE	< 0.25	< 1.00	< 1.00

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK 4 - PRIORITY POLLUTANT/ELUTRIATE TEST DATA CONCENTRATIONS

COMPOUND NAME	SEDIMENT (UG/G)	DILUTION ELUTRIATE WATER (UG/L)	
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INDIAN CREEK 1.00, SAMPLED 14 AUG 79
COMPOSITE FROM ALL CORE FRACTIONS

1. DDT (O,P)	4-007A	4-008	4-009
2. DDT (P,P)	0.03	< 0.08	< 0.08
3. DDT (O,P)	0.75	< 0.08	0.81
4. DDT (P,P)	0.78	0.48	0.18
5. DDE (O,P)	1.51	0.66	0.29
6. DDE (P,P)	1.01	0.12	0.23
7. TOTAL DDT	1.26	0.15	0.22
8. MERCURY (TOTAL)	5.34	1.49	1.77
9. CADMIUM (TOTAL)	0.63	< 0.20	< 0.20
10. COPPER (TOTAL)	< 1.00	1.00	< 1.00
11. ZINC (TOTAL)	36.00	60.00	20.00
12. NICKEL (TOTAL)	280.00	710.00	10.00
13. BERYLLIUM (TOTAL)	39.00	< 50.00	< 50.00
14. ARSENIC (TOTAL)	< 1.00	< 10.00	< 10.00
	12.00	< 2.00	< 2.00

INDIAN CREEK 3.00, SAMPLED 15 AUG 79
COMPOSITE OF 0-6" FRACTIONS

1. DDT (O,P)	4-015	4-019	4-020
2. DDT (P,P)	0.27	< 0.08	< 0.08
3. DDT (O,P)	7.61	< 0.08	0.92
4. DDT (P,P)	4.27	0.46	0.56
5. DDE (O,P)	9.07	0.56	1.22
6. DDE (P,P)	2.40	0.06	0.45
7. TOTAL DDT	4.97	0.07	0.52
8. MERCURY (TOTAL)	28.60	1.23	3.71
9. CADMIUM (TOTAL)	0.57	< 0.20	< 0.20
10. COPPER (TOTAL)	2.00	< 1.00	1.00
11. ZINC (TOTAL)	48.00	30.00	10.00
12. NICKEL (TOTAL)	330.00	20.00	30.00
13. BERYLLIUM (TOTAL)	28.00	< 50.00	< 50.00
14. ARSENIC (TOTAL)	< 1.00	< 10.00	< 10.00
15. CHROMIUM (TOTAL)	7.00	< 2.00	< 2.00
16. LEAD (TOTAL)	66.00	< 5.00	< 5.00
17. SELENIUM (TOTAL)	58.00	< 10.00	< 10.00
18. SILVER (TOTAL)	< 0.80	< 1.00	< 1.00
19. THALIUM (TOTAL)	5.00	< 10.00	< 10.00
20. ANTIMONY (TOTAL)	< 5.00	< 50.00	< 50.00
	0.80	< 2.00	< 2.00

INDIAN CREEK 3.00, SAMPLED 15 AUG 79
COMPOSITE OF ALL SAMPLES

1. DDT (O,P)	4-021	4-019	4-022
	0.16	< 0.08	< 0.08

ENGINEERING AND ENVIRONMENTAL STUDY OF DOT CONTAMINATION
MONTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK 4 - PRIORITY POLLUTANT/ELUTRIATE TEST DATA CONCENTRATIONS

COMPOUND NAME	SEDIMENT (UG/G)	DILUTION WATER (UG/L)	ELUTRIATE WATER (UG/L)
2. DOT(P,P)	2.65	< 0.08	0.32
3. DDD(O,P)	1.95	0.46	0.81
4. DDD(P,P)	4.42	0.56	0.18
5. DDE(O,P)	2.08	0.06	0.10
6. DDE(P,P)	3.07	0.07	0.05
7. TOTAL DDT	14.30	1.23	1.50
8. MERCURY(TOTAL)	0.78	< 0.20	< 0.20
9. CADMIUM(TOTAL)	1.00	< 1.00	< 1.00
10. COPPER(TOTAL)	46.00	30.00	20.00
11. ZINC(TOTAL)	310.00	20.00	10.00
12. NICKEL(TOTAL)	31.00	< 50.00	< 50.00
13. BERYLLIUM(TOTAL)	< 1.00	< 10.00	< 10.00
14. ARSENIC(TOTAL)	11.00	< 2.00	3.00
15. CHROMIUM(TOTAL)	.	< 5.00	.
16. LEAD(TOTAL)	.	< 10.00	.
17. SELENIUM(TOTAL)	.	< 1.00	.
18. SILVER(TOTAL)	.	< 10.00	.
19. THALIUM(TOTAL)	.	< 50.00	.
20. ANTIMONY(TOTAL)	.	< 2.00	.

M-VILLE SPRING BRANCH 0.00, SAMPLED 16 AUG 79
COMPOSITE FROM ALL CORE FRACTIONS

COMPOUND NAME	4-035	4-036	4-037
1. DOT(O,P)	0.12	< 0.08	< 0.08
2. DOT(P,P)	1.99	0.33	1.41
3. DDD(O,P)	0.72	0.63	0.36
4. DDD(P,P)	1.67	1.42	0.70
5. DDE(O,P)	0.63	0.10	0.42
6. DDE(P,P)	0.62	0.12	0.38
7. TOTAL DDT	5.75	2.64	3.31
8. MERCURY(TOTAL)	0.93	< 0.20	< 0.20
9. CADMIUM(TOTAL)	< 1.00	1.00	2.00
10. COPPER(TOTAL)	26.00	10.00	10.00
11. ZINC(TOTAL)	220.00	90.00	< 10.00
12. NICKEL(TOTAL)	35.00	< 50.00	< 50.00
13. BERYLLIUM(TOTAL)	< 1.00	< 10.00	< 10.00
14. ARSENIC(TOTAL)	20.00	< 2.00	5.00

M-VILLE SPRING BRANCH 2.00, SAMPLED 17 AUG 79
COMPOSITE FROM ALL CORE FRACTIONS

COMPOUND NAME	4-050	4-051	4-052
1. DOT(O,P)	0.21	< 0.08	< 0.08
2. DOT(P,P)	12.70	< 0.08	2.23
3. DDD(O,P)	4.00	1.30	0.60
4. DDD(P,P)	5.40	2.35	0.70
5. DDE(O,P)	1.21	0.12	0.17
6. DDE(P,P)	3.40	0.26	0.26
7. TOTAL DDT	26.90	4.11	4.00

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
MONTVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK 4 - PRIORITY POLLUTANT/ELUTRIATE TEST DATA CONCENTRATIONS

COMPOUND NAME	SEDIMENT (UG/G)	DILUTION ELUTRIATE	
		WATER (UG/L)	WATER (UG/L)
8. MERCURY (TOTAL)	0.97	< 0.20	< 0.20
9. CADMIUM (TOTAL)	< 1.00	< 1.00	< 1.00
10. COPPER (TOTAL)	20.00	20.00	10.00
11. ZINC (TOTAL)	180.00	470.00	< 10.00
12. NICKEL (TOTAL)	20.00	< 50.00	< 50.00
13. BERYLLIUM (TOTAL)	< 1.00	< 10.00	< 10.00
14. ARSENIC (TOTAL)	32.00	3.00	3.00

H-VILLE SPRING BRANCH 3.00, SAMPLED 20 AUG 79
COMPOSITE OF 0-6" FRACTIONS

COMPOUND NAME	4-060	4-064	4-065
1. DDT (O,P)	2.60	0.25	< 0.08
2. DDT (P,P)	166.00	0.13	10.00
3. DDD (O,P)	30.40	2.64	2.71
4. DDD (P,P)	102.00	4.57	12.60
5. DDE (O,P)	18.60	0.28	4.57
6. DDE (P,P)	29.40	0.28	3.57
7. TOTAL DDTA	369.00	8.12	33.50
8. MERCURY (TOTAL)	0.97	< 0.20	< 0.20
9. CADMIUM (TOTAL)	2.00	< 1.00	< 1.00
10. COPPER (TOTAL)	64.00	30.00	20.00
11. ZINC (TOTAL)	340.00	20.00	90.00
12. NICKEL (TOTAL)	35.00	< 50.00	< 50.00
13. BERYLLIUM (TOTAL)	< 1.00	< 10.00	< 10.00
14. ARSENIC (TOTAL)	9.00	2.00	2.00
15. CHROMIUM (TOTAL)	85.00	< 5.00	< 5.00
16. LEAD (TOTAL)	72.00	< 10.00	< 10.00
17. SELENIUM (TOTAL)	< 0.80	< 1.00	< 1.00
18. SILVER (TOTAL)	5.00	< 10.00	< 10.00
19. THALLIUM (TOTAL)	< 5.00	< 50.00	< 50.00
20. ANTIMONY (TOTAL)	0.80	< 2.00	< 2.00

H-VILLE SPRING BRANCH 3.00, SAMPLED 20 AUG 79
COMPOSITE FROM ALL CORE FRACTIONS

COMPOUND NAME	4-066	4-064	4-067
1. DDT (O,P)	1.00	0.25	0.25
2. DDT (P,P)	83.00	0.13	7.43
3. DDD (O,P)	7.80	2.64	1.52
4. DDD (P,P)	45.50	4.57	4.22
5. DDE (O,P)	4.70	0.28	1.49
6. DDE (P,P)	7.90	0.28	0.95
7. TOTAL DDTA	151.00	8.12	15.90
8. MERCURY (TOTAL)	0.43	< 0.20	< 0.20
9. CADMIUM (TOTAL)	2.00	< 1.00	< 1.00
10. COPPER (TOTAL)	33.00	30.00	20.00
11. ZINC (TOTAL)	340.00	20.00	10.00
12. NICKEL (TOTAL)	34.00	< 50.00	< 50.00
13. BERYLLIUM (TOTAL)	< 1.00	< 10.00	< 10.00

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
MUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK 4 - PRIORITY POLLUTANT/ELUTRIATE TEST DATA CONCENTRATIONS

COMPOUND NAME	SEDIMENT (UG/G)	DILUTION ELUTRIATE	
		WATER (UG/L)	WATER (UG/L)
14. ARSENIC(TOTAL)	9.00	2.00	< 2.00
15. CHROMIUM(TOTAL)	.	< 5.00	.
16. LEAD(TOTAL)	.	< 10.00	.
17. SELENIUM(TOTAL)	.	< 1.00	.
18. SILVER(TOTAL)	.	< 10.00	.
19. THALLIUM(TOTAL)	.	< 50.00	.
20. ANTIMONY(TOTAL)	.	< 2.00	.

H-VILLE SPRING BRANCH 4-50, SAMPLED 21 AUG 79
COMPOSITE FROM ALL CORE FRACTIONS

1. DDT(I,P)	4-072	4-073	4-074
2. DDT(P,P)	89.40	0.20	1.44
3. DDD(I,P)	628.00	0.13	50.00
4. DDD(P,P)	38.70	1.30	3.94
5. DDE(I,P)	68.50	1.39	3.79
6. DDE(P,P)	15.70	0.11	1.06
7. TOTAL DDT	47.10	0.17	0.92
8. MERCURY(TOTAL)	887.00	3.30	61.40
9. CADMIUM(TOTAL)	0.83	< 0.20	< 0.20
10. COPPER(TOTAL)	1.00	< 1.00	3.00
11. ZINC(TOTAL)	42.00	10.00	20.00
12. NICKEL(TOTAL)	300.00	10.00	10.00
13. BERYLLIUM(TOTAL)	26.00	< 50.00	< 50.00
14. ARSENIC(TOTAL)	< 1.00	< 10.00	< 10.00
	10.00	< 2.00	< 2.00

H-VILLE SPRING BRANCH 4-20, SAMPLED 22 AUG 79
COMPOSITE FROM ALL CORE FRACTIONS

1. DDT(I,P)	4-079	4-080	4-081
2. DDT(P,P)	132.00	< 0.20	3.98
3. DDD(I,P)	905.00	< 0.20	13.90
4. DDD(P,P)	64.50	1.44	6.33
5. DDE(I,P)	82.00	1.59	4.90
6. DDE(P,P)	12.00	0.10	0.92
7. TOTAL DDT	48.00	0.21	2.06
8. MERCURY(TOTAL)	1244	3.54	32.10
9. CADMIUM(TOTAL)	0.50	< 0.20	< 0.20
10. COPPER(TOTAL)	< 1.00	< 1.00	< 1.00
11. ZINC(TOTAL)	29.00	10.00	10.00
12. NICKEL(TOTAL)	300.00	< 10.00	< 10.00
13. BERYLLIUM(TOTAL)	24.00	< 50.00	< 50.00
14. ARSENIC(TOTAL)	< 1.00	< 10.00	< 10.00
	10.00	< 2.00	< 2.00

H-VILLE SPRING BRANCH 5-00, SAMPLED 23 AUG 79

4-115 4-116 4-117

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK 4 - PRIORITY POLLUTANT/ELUTRIATE TEST DATA CONCENTRATIONS

COMPOUND NAME	SEDIMENT (UG/G)	DILUTION ELUTRIATE	
		WATER (UG/L)	WATER (UG/L)
1. DDT (O,P)	118.00	0.32	4.08
2. DDT (P,P)	1660	0.22	32.80
3. DDD (O,P)	580.00	2.10	12.10
4. DDD (P,P)	1300	2.05	16.90
5. DDE (O,P)	140.00	0.18	1.91
6. DDE (P,P)	320.00	0.24	1.78
7. TOTAL DDT	4118	5.11	69.80
8. MERCURY (TOTAL)	3.30	0.20	1.30
9. CADMIUM (TOTAL)	1.00	1.00	1.00
10. COPPER (TOTAL)	41.00	50.00	40.00
11. ZINC (TOTAL)	360.00	20.00	< 10.00
12. NICKEL (TOTAL)	35.00	< 50.00	< 50.00
13. BERYLLIUM (TOTAL)	< 1.00	< 10.00	< 10.00
14. ARSENIC (TOTAL)	32.00	2.00	34.00

H-VILLE SPRING BRANCH 5.40, SAMPLED 24 AUG 79
COMPOSITE OF ALL 4 FRACTIONS

COMPOUND NAME	SEDIMENT (UG/G)	DILUTION ELUTRIATE	
		WATER (UG/L)	WATER (UG/L)
1. DDT (O,P)	17.00	0.32	4.08
2. DDT (P,P)	588.00	1.51	11.60
3. DDD (O,P)	5.47	0.36	1.01
4. DDD (P,P)	12.90	0.79	1.43
5. DDE (O,P)	3.63	0.16	0.67
6. DDE (P,P)	8.70	0.18	0.30
7. TOTAL DDT	636.00	3.38	15.70
8. MERCURY (TOTAL)	< 1.00	0.20	< 0.20
9. CADMIUM (TOTAL)	< 1.00	1.00	< 1.00
10. COPPER (TOTAL)	25.00	10.00	60.00
11. ZINC (TOTAL)	180.00	20.00	< 10.00
12. NICKEL (TOTAL)	16.00	< 50.00	< 50.00
13. BERYLLIUM (TOTAL)	< 1.00	< 10.00	< 10.00
14. ARSENIC (TOTAL)	36.00	< 2.00	5.00

H-VILLE SPRING BRANCH 5.38, SAMPLED 24 AUG 79
COMPOSITE OF ALL 4 FRACTIONS

COMPOUND NAME	SEDIMENT (UG/G)	DILUTION ELUTRIATE	
		WATER (UG/L)	WATER (UG/L)
1. DDT (O,P)	169.00	0.13	3.88
2. DDT (P,P)	1374	0.14	208.00
3. DDD (O,P)	134.00	0.18	79.70
4. DDD (P,P)	185.00	0.28	59.00
5. DDE (O,P)	57.60	0.04	10.10
6. DDE (P,P)	95.70	0.07	14.60
7. TOTAL DDT	2015	0.84	375.00
8. MERCURY (TOTAL)	< 1.00	0.20	0.30
9. CADMIUM (TOTAL)	< 1.00	1.00	< 1.00
10. COPPER (TOTAL)	88.00	30.00	50.00
11. ZINC (TOTAL)	320.00	20.00	< 10.00
12. NICKEL (TOTAL)	58.00	< 50.00	< 50.00

ENGINEERING AND ENVIRONMENTAL STUDY OF SITE CONTAMINATION
MOUNTAIN SPRING BRANCH, INDIAN CREEK, AND ADJACENT LAKES AND WATERS
WHEELER RESERVOIR, ALABAMA

TABLE 4 - PRIORITY POLLUTANT/ELUTRIATE TEST DATA CONCENTRATIONS

COMPOUND NAME	SEDIMENT (UG/G)	DILUTION ELUTRIATE WATER (UG/L)	
		< 1.00	< 10.00
13. BERYLLIUM(TOTAL)	< 1.00	< 10.00	< 10.00
14. ARSENIC(TOTAL)	50.50	2.00	8.00

H-VILLE SPRING BRANCH 5.37, SAMPLED 24 AUG. 79
COMPOSITE OF 0-6, 6-12, 12-24 CORE FRACTION

	4-126	4-126A	4-127
1. DDT(0,P)	1163	0.11	8.19
2. DDT(P,P)	10236	0.30	409.00
3. DDD(0,P)	147.00	0.15	30.40
4. DDD(P,P)	458.00	0.19	8.77
5. DDE(0,P)	114.00	< 0.04	5.85
6. DDE(P,P)	448.00	0.05	2.34
7. TOTAL DDTs	12566	0.63	465.00
8. MERCURY(TOTAL)	1.20	< 0.20	< 0.20
9. CADMIUM(TOTAL)	3.00	< 1.00	1.00
10. COPPER(TOTAL)	130.00	< 10.00	20.00
11. ZINC(TOTAL)	450.00	< 10.00	< 10.00
12. NICKEL(TOTAL)	34.00	< 50.00	< 50.00
13. BERYLLIUM(TOTAL)	< 1.00	< 10.00	< 10.00
14. ARSENIC(TOTAL)	8.00	3.00	19.00

H-VILLE SPRING BRANCH 5.37, SAMPLED 24 AUG 79
0-6" CORE FRACTION TAKEN IN DITCH

	4-129	4-126A	4-130
1. DDT(0,P)	533.00	0.11	18.70
2. DDT(P,P)	2012	0.30	28.90
3. DDD(0,P)	74.20	0.15	5.15
4. DDD(P,P)	133.00	0.19	5.49
5. DDE(0,P)	62.80	< 0.04	3.33
6. DDE(P,P)	209.00	0.05	8.33
7. TOTAL DDTs	3024	0.82	69.90
8. MERCURY(TOTAL)	1.00	< 0.20	< 0.20
9. CADMIUM(TOTAL)	< 1.00	< 1.00	< 1.00
10. COPPER(TOTAL)	30.00	< 10.00	< 10.00
11. ZINC(TOTAL)	230.00	< 10.00	< 10.00
12. NICKEL(TOTAL)	37.00	< 50.00	< 50.00
13. BERYLLIUM(TOTAL)	< 1.00	< 10.00	< 10.00
14. ARSENIC(TOTAL)	14.00	3.00	2.00

H-VILLE SPRING BRANCH 5.35, SAMPLED 24 AUG 79
COMPOSITE OF 0-6, 6-12 CORE FRACTION

	4-132	4-132A	4-133
1. DDT(0,P)	540.00	< 0.30	55.90
2. DDT(P,P)	197.00	< 0.30	37.30
3. DDD(0,P)	116.00	< 0.20	29.80
4. DDD(P,P)	147.00	< 0.20	18.60
5. DDE(0,P)	62.00	< 0.09	10.50

ENGINEERING AND ENVIRONMENTAL STUDY OF DOT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK 4 - PRIORITY POLLUTANT/ELUTRIATE TEST DATA CONCENTRATIONS

COMPOUND NAME	SEDIMENT (UG/G)	DILUTION ELUTRIATE	
		WATER (UG/L)	WATER (UG/L)
6. DDE(P,P)	289.00	< 0.10	23.00
7. TOTAL DDTs	1371	0.60	175.00
8. MERCURY(TOTAL)	1.20	< 0.20	0.30
9. CADMIUM(TOTAL)	< 1.00	< 1.00	< 1.00
10. COPPER(TOTAL)	50.00	10.00	20.00
11. ZINC(TOTAL)	460.00	20.00	< 10.00
12. NICKEL(TOTAL)	34.00	< 50.00	< 50.00
13. BERYLLIUM(TOTAL)	< 1.00	< 10.00	< 10.00
14. ARSENIC(TOTAL)	18.00	< 2.00	7.00

H-VILLE SPRING BRANCH 5-60, SAMPLED 24 AUG 79

COMPOUND NAME	SEDIMENT (UG/G)	DILUTION ELUTRIATE	
		WATER (UG/L)	WATER (UG/L)
1. DDT(10,P)	0.07	< 0.08	0.18
2. DDT(P,P)	0.20	< 0.08	0.20
3. DDD(10,P)	0.03	< 0.08	< 0.08
4. DDD(P,P)	0.08	< 0.08	< 0.08
5. DDE(10,P)	0.07	< 0.04	0.06
6. DDE(P,P)	0.05	< 0.04	0.05
7. TOTAL DDTs	0.50	< 0.20	0.57
8. MERCURY(TOTAL)	4.90	< 0.20	0.40
9. CADMIUM(TOTAL)	1.00	< 1.00	< 1.00
10. COPPER(TOTAL)	40.00	< 10.00	20.00
11. ZINC(TOTAL)	268.00	< 10.00	20.00
12. NICKEL(TOTAL)	25.00	< 50.00	< 50.00
13. BERYLLIUM(TOTAL)	< 1.00	< 10.00	< 10.00
14. ARSENIC(TOTAL)	35.00	3.00	59.00

FOOTNOTES:
VALUES LESS THAN DETECTION LIMITS ARE ESTIMATED TO BE ONE-HALF THE DETECTION LIMIT WHEN TOTAL DDTs IS CALCULATED.

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK 4 - PRIORITY POLLUTANT/ELUTRIATE TEST DATA CONCENTRATIONS
AMOUNT OF FILTERABLE RESIDUE FINER THAN GLASS FIBER (11.2 MICRON) BUT RETAINED ON A 0.45 MICRON FILTER
ORGANIC PRIORITY
POLLUTANT ANALYSES

LABID	LOCATION	TYPE SAMPLE	DDT ANALYSIS	POLLUTANT ANALYSES
4-008	ICM 1-0	DILUTION WATER	<1	
4-009	ICM 1-0	ELUTRIATE TEST WATER	79	
4-019	ICM 3-0	DILUTION WATER	<1	2
4-020	ICM 3-0	ELUTRIATE TEST WATER	22	11
4-022	ICM 3-0	ELUTRIATE TEST WATER	28	
4-036	MSB 0-0	DILUTION WATER	<1	
4-037	MSB 0-0	ELUTRIATE TEST WATER	12	
4-051	MSB 2-0	DILUTION WATER	5	
4-052	MSB 2-0	ELUTRIATE TEST WATER	16	
4-064	MSB 3-0	DILUTION WATER	12	
4-065	MSB 3-0	ELUTRIATE TEST WATER	23	
4-067	MSB 3-0	ELUTRIATE TEST WATER	6	
4-073	MSB 4-5	DILUTION WATER	3	
4-074	MSB 4-5	ELUTRIATE TEST WATER	16	8
4-080	MSB 4-2	DILUTION WATER	7	27
4-081	MSB 4-2	ELUTRIATE TEST WATER	670	
4-116	MSB 5-0	DILUTION WATER	7	
4-117	MSB 5-0	ELUTRIATE TEST WATER	11	
4-120	MSB 5-4	DILUTION WATER	9	
4-121	MSB 5-4	ELUTRIATE TEST WATER	22	
4-123A	MSB 5-38	DILUTION WATER	2	
4-124	MSB 5-38	ELUTRIATE TEST WATER	43	
4-126A	MSB 5-37	DILUTION WATER	<1	
4-127	MSB 5-37	ELUTRIATE TEST WATER	31	
4-130	MSB 5-35	DILUTION WATER	32	
4-132A	MSB 5-35	ELUTRIATE TEST WATER	<1	
4-133	MSB 5-35	ELUTRIATE TEST WATER	63	
4-136	MSB 5-6	DILUTION WATER	<1	
4-139	MSB 5-6	ELUTRIATE TEST WATER	36	

ENGINEERING AND ENVIRONMENTAL STUDY
OF DDT CONTAMINATION OF HUNTSVILLE
SPRING BRANCH, INDIAN CREEK, AND
ADJACENT LANDS AND WATERS,
WHEELER RESERVOIR, ALABAMA

TASK 5

AQUATIC BIOTRANSPORT
(EXCLUDING VERTEBRATES)

Tennessee Valley Authority
Office of Natural Resources

August 1980

PREFACE

This document was prepared in support of the Engineering and Environmental Study of DDT contamination of Huntsville Spring Branch, Indian Creek, and Adjacent Lands and Waters, Wheeler Reservoir, Alabama, for the U.S. Corps of Engineers.

This document contains information produced in fulfillment of an interagency agreement between the U.S. Corps of Engineers and the Tennessee Valley Authority (TVA Contract No. TV-52305A).

TASK 5

AQUATIC BIOTRANSPORT (EXCLUDING VERTEBRATES)

CONTENTS

	<u>Page</u>
WORKTASK DESCRIPTION	
Purpose	1
Scope	1
Sample Collection and Handling	2
Sample Analysis	10
Data Handling and Reporting	11
DATA SUMMARY	
Rainfall Survey	12
Late Summer/Early Fall	14
Late Fall/Early Winter	20
RAW DATA TABULATIONS	23
MAPS OF SAMPLING SITES	Appendix

LIST OF TABLES

<u>Table</u>	<u>Page</u>
5-1 Summary of Samples Collected for Task 5	3
5-2 Zooplankton Samples Composited for DDT Analysis	6
5-3 Summary of Chemical Data for Task 5	23
5-4A Occurrence and Abundance of Phytoplankton Taxa in Samples Collected After a Large Rainfall Event - September 5, 1979	37
5-4B Phytoplankton Composition Replicate Analysis Results and Calculated Means - Rainfall Event Sampling	39
5-5A Occurrence and Abundance of Zooplankton Taxa in Samples Collected After a Large Rainfall Event - September 5, 1979	47
5-5B Zooplankton Composition Replicate Analysis Results and Calculated Means - Rainfall Event Sampling	49
5-6 <u>In Situ</u> and Field Determined Water Quality Parameters During Late Summer/Early Fall	56
5-7A Occurrence and Abundance of Phytoplankton Taxa in Samples Collected During Late Summer/Early Fall	62
5-7B Phytoplankton Composition Replicate Analysis Results and Calculated Means - Late Summer/Early Fall Sampling	72
5-8A Occurrence and Abundance of Zooplankton Taxa in Samples Collected During Late Summer/Early Fall	158
5-8B Zooplankton Composition Replicate Analysis Results and Calculated Means - Late Summer/Early Fall Sampling	162
5-9 Occurrence and Abundance of Benthic Macroinvertebrate Fauna Collected by Grab Sampling during Late Summer/ Early Fall	191
5-10 Macroinvertebrate Taxa Occurrence and Abundance As Documented from Hester-Dendy Trap Samplers During Late Summer/Early Fall	194
5-11 Results of Microscopical Analysis of Zooplankton Samples Analyzed for Percentage Composition by Zooplankton, Other Organic Matter, and Inorganic Matter During Late Fall/Early Winter	195

WORKTASK DESCRIPTION

I. Purpose

The purpose of the task is to define the body burden levels of DDTR (i.e., DDT isomers and metabolites) in nonvertebrate aquatic organisms occurring in Huntsville Spring Branch (HSB), Indian Creek (IC), and adjoining regions of Wheeler and Guntersville Reservoirs. In addition, the task documents the spatial distribution of these organisms as it relates to any remedial measures.

II. Scope

- A. Three sampling efforts were conducted: once *immediately* following a large rainfall event in late summer, once during the late summer/early fall season, and once during the late fall/early winter season.
- B. Indian Creek and Huntsville Spring Branch were sampled at various locations up to ICM 7.0 and HSBM 5.9, respectively. The Tennessee River was sampled from TRM 359.0 in Guntersville Reservoir downstream to TRM 289.9 in Wheeler Reservoir. Flint River (FRM 22.7), Elk River (ERM 20.7), Limestone Creek (LCM 18.0) and Barren Fork Creek (BFCM 1.2) were sampled as tributary stations (See Appendix). Not all stations were sampled during each field effort.
- C. The types of samples collected included:
 - 1. Biological samples for concentration of DDTR and organism identification/enumeration including:

- a. Phytoplankton
 - b. Zooplankton
 - c. Benthos
 - d. Aufwuchs, and
 - e. Herbaceous aquatic vascular plant communities.
2. Whole water for DDTR, nutrients, and selected metals analysis, as well as in situ water quality parameters.
 3. Sediment for DDTR analysis.

Not all types of samples were collected during each of the three field efforts (See Table 5-1).

III. Sample Collection and Handling

A. Biological

1. Phytoplankton

Phytoplankton/inorganic particle samples were collected at half-meter intervals as grab samples from the euphotic zone. Two 4-L samples were made at each station by compositing three replicate grab samples each. These samples were placed in glass containers cleaned for DDTR analysis, capped with lids lined with aluminum foil, and iced to 4°C during transport to the laboratory. Samples for DDTR analysis were labeled with identifying number, location, and date, and were accompanied by detailed field notes describing actual sampling locations cross-referenced to sample numbers.

Samples for phytoplankton identification and enumeration were collected, preserved with an appropriate fixative, and labeled for biological analysis.

Table 5-1. Summary of Samples Collected for Task 5

<u>Sample Type</u>	<u>Field Effort</u>		
	<u>Rainfall Survey</u>	<u>Late Summer/Early Fall</u>	<u>Late Fall/ Early Winter</u>
Phytoplankton	ICM 0.0, 4.0	HSBM 0.0, 1.3, 2.4, 5.37, 5.9 ICM 0.0, 4.0 TRM 289.9, 315.0, 345.2, 350.0 BFCM 1.2	No Samples Collected
Zooplankton	ICM 0.0, 4.0	HSBM 0.0, 1.3, 2.4, 5.37, 5.9 ICM 0.0, 4.0 TRM 289.9, 315.0, 345.0, 350.0 BFCM 1.2	HSBM 2.4, 5.9 ICM 0.8, 4.6
Benthic Macroinvertebrates	No Samples Collected	HSBM 0.0, 1.3, 2.4, 4.3, 5.37, 5.4, 5.9 ICM 0.0, 4.0 TRM 289.9, 315.0, 345.3, 350.0 BFCM 1.2 ERM 20.7 FRM 22.7 LCM 18.0	HSBM 2.4, 5.9 ICM 0.8, 4.6
Aufwuchs	No Samples Collected	HSBM 0.0, 1.3, 2.4, 5.37, 5.9 ICM 0.0, 4.0 TRM 289.9, 315.0, 345.2, 350.0 BFCM 1.2	No Samples Collected
Aquatic Vascular Plants	No Samples Collected	HSBM 2.5, 4.5, 5.6 ICM 4.2, 6.7, 7.0 TRM 293.0 LOB, 305.1 ROB, 328.5 LOB, 359.0 (ROB)	No Samples Collected
Whole Water DDTR	No Samples Collected	TRM 345.0 FRM 22.7 LCM 18.0	No Samples Collected

Table 5-1. Summary of Samples Collected for Task 5
(Continued)

Sample Type	Field Effort			Late Fall/ Early Winter
	Rainfall Survey	Late Summer/Early Fall		
Nutrients, Metals	ICM 0.0, 4.0	HSBM 0.0, 5.37, 5.9		No Samples Collected
		ICM 0.0, 4.0		
		TRM 289.9, 315.0, 345.2, 350.0		
		BFCM 1.2		
		ERM 20.7		
		FRM 22.7		
<u>in situ</u> Water Quality		LCM 18.0		No Samples Collected
	No Samples Collected	HSBM 0.0, 1.3, 2.4, 5.37, 5.9		
		ICM 0.0, 4.0		
		TRM 289.0, 315.0, 345.2, 350.0		
		BFCM 1.2		
		FRM 22.7		
Sediment DDTR	No Samples Collected	LCM 18.0		No Samples Collected

2. Zooplankton

Zooplankton was collected for the rainfall event and the late summer/early fall sampling periods by 5-minute horizontal tows using a 0.5-m aperture plankton net with 80 μ mesh. During the late fall/early winter sampling period, zooplankton was collected by pumping water through an 80-micron mesh net for 10 minutes since the low water levels prevented net towing. Zooplankton which was collected for each of the DDTR analyses was placed in a glass container cleaned for DDTR analysis and sealed with a lid lined with aluminum foil. One gram of zooplankton would have been optimum, but because of the small sample weights of zooplankton at certain locations it was sometimes necessary to make a composite to obtain a large enough sample for analysis. Table 5-2 lists the samples that were composited. The samples were placed on ice and kept at 4°C during transport to the laboratory. Sample bottles were labeled with identifying number, location, and date and were accompanied by detailed field notes describing actual sampling locations cross-referenced to sample numbers.

The zooplankton samples were prepared by filtering the entire zooplankton sample through a pre-weighed glass fiber filter, retaining the filtrate. The filters were air dried to constant weight, recombined with the retained filtrate, and blended using a polytron blender for two minutes. The volume of the sample was determined and the sample analyzed for DDTR. The results of the analyses are reported as μg DDTR/g zooplankton.

Table 5-2. Zooplankton Samples Composited for DDT Analysis

<u>Sample #</u>	<u>Location</u>	<u>Number of Individual Samples Composited</u>
DDT 5-48C	TRM 289.9 (ROB)	3
DDT 5-51C	TRM 289.9 (MID)	3
DDT 5-54C	TRM 289.9 (LOB)	3
DDT 5-57C	TRM 315.0 (ROB)	3
DDT 5-60C	TRM 315.0 (MID)	3
DDT 5-63C	TRM 315.0 (LOB)	3
DDT 5-66C	TRM 345.2 (LOB)	3
DDT 5-69C	TRM 345.2 (MID)	3
DDT 5-75C	TRM 350.0 (LOB)	3
DDT 5-78C	TRM 350.0 (MID)	3
DDT 5-81C	TRM 350.0 (ROB)	3
DDT 5-87C	HSB 1.3	2
DDT 5-90C	HSB 2.4	2
DDT 5-94C	HSB 5.37	2
DDT 5-96C	HSB 5.9	3
DDT 5-13C	ICM 0.0	5
DDT 5-11C	ICM 4.0	2
DDT 5-103C	ICM 4.0	3
DDT 5-105C	BFC 1.2	

TRM = Tennessee River Mile
 HSB = Huntsville Spring Branch
 IC = Indian Creek
 BFC = Barren Fork Creek
 MID = Midstream
 LOB = Left overbank
 ROB = Right overbank

2. Zooplankton

Zooplankton was collected for the rainfall event and the late summer/early fall sampling periods by 5-minute horizontal tows using a 0.5-m aperture plankton net with 80 μ mesh. During the late fall/early winter sampling period, zooplankton was collected by pumping water through an 80-micron mesh net for 10 minutes since the low water levels prevented net towing. Zooplankton which was collected for each of the DDTR analyses was placed in a glass container cleaned for DDTR analysis and sealed with a lid lined with aluminum foil. One gram of zooplankton would have been optimum, but because of the small sample weights of zooplankton at certain locations it was sometimes necessary to make a composite to obtain a large enough sample for analysis. Table 5-2 lists the samples that were composited. The samples were placed on ice and kept at 4°C during transport to the laboratory. Sample bottles were labeled with identifying number, location, and date and were accompanied by detailed field notes describing actual sampling locations cross-referenced to sample numbers.

The zooplankton samples were prepared by filtering the entire zooplankton sample through a pre-weighed glass fiber filter, retaining the filtrate. The filters were air dried to constant weight, recombined with the retained filtrate, and blended using a polytron blender for two minutes. The volume of the sample was determined and the sample analyzed for DDTR. The results of the analyses are reported as μ g DDTR/g zooplankton.

Table 5-2. Zooplankton Samples Composited for DDT Analysis

<u>Sample #</u>	<u>Location</u>	<u>Number of Individual Samples Composited</u>
DDT 5-48C	TRM 289.9 (ROB)	3
DDT 5-51C	TRM 289.9 (MID)	3
DDT 5-54C	TRM 289.9 (LOB)	3
DDT 5-57C	TRM 315.0 (ROB)	3
DDT 5-60C	TRM 315.0 (MID)	3
DDT 5-63C	TRM 315.0 (LOB)	3
DDT 5-66C	TRM 345.2 (LOB)	3
DDT 5-69C	TRM 345.2 (MID)	3
DDT 5-75C	TRM 350.0 (LOB)	3
DDT 5-78C	TRM 350.0 (MID)	3
DDT 5-81C	TRM 350.0 (ROB)	3
DDT 5-87C	HSB 1.3	2
DDT 5-90C	HSB 2.4	2
DDT 5-94C	HSB 5.37	2
DDT 5-96C	HSB 5.9	3
DDT 5-13C	ICM 0.0	5
DDT 5-11C	ICM 4.0	2
DDT 5-103C	ICM 4.0	3
DDT 5-105C	BFC 1.2	

TRM = Tennessee River Mile
 HSB = Huntsville Spring Branch
 IC = Indian Creek
 BFC = Barren Fork Creek
 MID = Midstream
 LOB = Left overbank
 ROB = Right overbank

Samples collected for zooplankton identification and enumeration were preserved with an appropriate fixative and labeled for biological analysis. During the late fall/early winter sampling period triplicate samples for percent composition analysis of were also collected.

3. Benthos

Benthic macroinvertebrates were collected by a grab sampler with the exception that a Needham scraper was used to collect organisms at FRM 22.7 and LCM 18.0 because of the rock and gravel substrate. Triplicate samples (from right and left overbanks and mid-channel) were composited in the field; two composite samples were made at each station. However, for TRM 350.0, 345.2, 2,315.0, and 289.9 the samples were not composited and were analyzed individually. Samples for DDTR analysis were collected in glass containers cleaned for DDTR analysis, sealed with lids lined with aluminum foil, and transported to the laboratory on ice. The samples were frozen in the laboratory until processed.

Benthic macroinvertebrate samples were prepared by filtering the sample through a tared 63 μ m sieve, retaining the filtrate. The sieve was reweighed and the total weight of filtered material determined. Sieve contents were washed back into the retained filtrate and the sample was blended for two minutes. The volume of the sample was determined and analyzed for DDTR. The results of the DDTR analysis are reported in μ g DDTR/g.

4. Aufwuchs

The aufwuchs community was sampled using both Hester-Dendy macroinvertebrate samplers and Plexiglas[®] periphyton samplers. Hester-Dendy samplers were suspended in the upper portion of the euphotic zone at each station for a four-week incubation period. Indian Creek and Huntsville Spring Branch were sampled in triplicate at each station. Tennessee River sites had five samplers at each point (ROB, MC, LOB) across a transect at each station. No Hester-Dendy samplers were placed at midchannel sites at TRM 315.0, 345.2, and 350.0 because of river traffic. The Plexiglas[®] samplers were placed and incubated for two weeks, but a decision was made not to use these samples because of the possibility of DDT adsorption on the Plexiglas[®] slides. All Plexiglas[®] slides, however, were frozen for possible future use.

Appropriate aufwuchs sample collection techniques were used to minimize organism loss during collection and biasing of subsequent DDTR analysis. The samplers were placed in plastic bags and transported on ice to the laboratory. At least 25g and preferably 50g of organisms were removed from each sampler for DDTR analysis. The organism samples to be analyzed for DDTR were placed in specially cleaned glass bottles, and sealed with caps lined with aluminum foil.

The samplers used to collect samples for identification and enumeration analysis were placed in individual plastic bags, labeled, and preserved with formalin.

5. Herbaceous Aquatic Vascular Plants

Herbaceous vascular plants were collected by identifying the dominant genera and gathering sufficient quantities of the representatives to perform analyses. Whole plant collection was routinely performed, but storage and/or reproductive structures such as seeds and tubers were collected when available and submitted for separate analysis. After collection and prior to processing, the plants were washed to remove sediments, taking care not to dislodge organisms which would normally be consumed by grazing organisms along with the plant structures. At least 50 g of material was collected for DDTR analysis.

B. Whole Water

Whole water (i.e., unfiltered) samples were collected by field compositing samples gathered at half-meter intervals starting at 50 cm below the water surface and ending near the bottom. A four-liter composite sample was placed in a glass container washed for pesticide analysis, sealed with a cap lined with aluminum foil, and transported to the laboratory on ice for DDTR analysis.

Water samples for nutrients ($\text{NO}_2\text{-NO}_3$, NH_3 , and PO_4) and selected metals (Ca and Mg) analyses were collected and preserved using the currently accepted and approved regulatory agency methodologies.¹ Samples were taken at half-meter intervals top to bottom and composited.

1. See Quality Assurance Document for reference.

In situ water quality parameters (pH, DO, conductivity, and temperature) were determined potentiometrically with a calibrated and documented instrument at half-meter intervals from 50 cm below the surface to the bottom. Alkalinity was determined in the field using the currently accepted and approved regulatory agency methodology¹ on samples composited by collecting at half-meter intervals from 50 cm below the surface to the bottom.

C. Sediment

Sediments for DDTR analysis were collected with an Ekman dredge, placed in glass containers cleaned for DDTR analysis, sealed with caps lined with aluminum foil and transported on ice to the laboratory. Multiple grab samples were collected at ROB and LOB locations and composited to yield sufficient sample for analysis.

IV. Sample Analysis

A. Biological

1. DDTR Analysis

All biological samples collected for DDTR analyses were analyzed using currently accepted and approved regulatory agency methodology.²

DDTR levels in the phytoplankton/inorganic particle fraction were calculated after analysis of the total DDTR in one four-liter sample and an analysis of the filtrate from the second four-liter sample.

1. See Quality Assurance Document for reference.
2. Ibid.

2. Identification/Enumeration

Approximately 150 samples were analyzed for kinds and numbers of organisms present. These data are reported to the lowest identifiable taxon.

B. Whole Water

1. DDTR Analysis

All water samples for DDTR analysis were analyzed using currently accepted and approved regulatory agency methodology.¹

2. Nutrient and Metal Analysis

All water samples for nutrient and metal determination were analyzed using currently accepted and approved regulatory agency methodology.²

C. Sediment

All sediment samples were analyzed for DDTR using currently accepted and approved regulatory agency methodology.³

V. Data Handling and Reporting

A. Biological

1. DDTR Analysis

All data is summarized in tabular form. Each of six forms of DDT and total residue concentration are shown along with detection limits and precision and accuracy data for each procedure.

2. Identification and Enumeration

Results of biological analysis for identification and enumeration are tabulated by appropriate classification group.

1. See Quality Assurance Document for reference.
2. Ibid.
3. Ibid.

B. Whole Water

1. DDTR Analysis

Results of chemical analyses for DDTR are summarized in tabular form. Each of six forms of DDT and total residue concentration are shown along with detection limits and precision and accuracy data for each procedure.

2. Nutrient and Metal Analysis

Nutrient concentrations and metals are summarized in tabular form along with field measurements of in situ water quality parameters.

C. Sediment

Results of chemical analyses for DDTR are summarized in tabular form. Each of six forms of DDT and total residue concentration are shown along with detection limits and precision and accuracy data for each procedure.

D. Data Reporting

The data are compiled into the attached report which includes data summaries and a brief assessment of the data with noting of values which appear to be outside normal ranges.

DATA SUMMARY

The data are summarized by field effort, and within this category by sample type.

1. Sampling After A Large Rainfall Event

A. Phytoplankton/Inorganic

1. Stations Sampled

ICM 0.0; ICM 4.0.

2. Number of Samples Collected

Duplicate samples were collected for DDTR analyses as well as for identification.

3. Number of Analyses Performed

Although four samples were collected for DDTR analyses there was sufficient sample volume in each to permit three DDTR analyses per station to be run. This resulted in six total DDTR analyses and six dissolved DDTR analyses (see Table 5-3). There were two identifications performed at each station.

4. Taxonomic and Water Quality Data

Chemical water quality data for the rainfall survey is summarized in Table 5-3.

The phytoplankton assemblages at the two stations were numerically dominated by the same taxa (Merismopedia sp. and Melosira sp.). However, there were 57 taxa at ICM 0.0 and 46 taxa at ICM 4.0. One more chrysophyte taxon occurred at ICM 4.0 than at ICM 0.0 (the stations had seven chrysophytes in common). There were eight fewer

chlorophyte taxa and four fewer cyanophyte taxa at ICM 4.0 than at ICM 0.0. (See Tables 5-4A and 5-4B).

B. Zooplankton

1. Stations Sampled

ICM 0.0, ICM 4.0.

2. Number of Samples Collected

Duplicate samples were collected for DDTR analyses as well as for identification.

3. Number of Analyses Performed

Because of a sample size constraint, duplicate zooplankton samples were composited for each station, resulting in two DDTR analyses (see Table 5-3).

4. Taxonomic Data

The zooplankton assemblages for the two stations were both rotifer-dominated (Brachionus caudatus at ICM 4.0 and B. calyciflorus at ICM 0.0). There were two fewer rotifer taxa, four fewer cladoceran taxa and one less copepod taxon at ICM 4.0 than at ICM 0.0. The two stations had 22 rotifer taxa (out of 40), one cladoceran taxon (out of five), and three copepod taxa (out of four) in common. (See Tables 5-5A and 5-5B).

C. Benthic Macroinvertebrates

No samples were collected for DDTR analysis or identification/enumeration.

D. Aufwuchs

No samples were collected for DDTR analysis or identification/enumeration.

E. Aquatic Vascular Plants

No samples were collected for DDTR analysis.

F. Whole Water and Sediments

No samples were collected for DDTR analysis.

II. Late Summer/Early Fall

A. Phytoplankton/Inorganic

1. Stations Sampled

ICM 0.0; ICM 4.0; BFCM 1.2; HSBM 0.0; HSBM 1.3; HSBM 2.4;
HSBM 5.37; HSBM 5.9; TRM 289.9 ROB, MC, LOB;¹ TRM 315.0 ROB,
MC, LOB; TRM 345.2 ROB, MC, LOB; TRM 350.0 ROB, MC, LOB.

2. Number of Samples Collected

Triplicate samples were collected at all stations for a
total of 60 samples for DDTR and 60 for identification.

3. Number of Analyses Performed

There were 120 total DDTR analyses (60 total DDTR and 60
dissolved DDTR) completed and 60 identifications were
performed (see Table 5-3).

4. Taxonomic and Water Quality Data

Laboratory determinations of water quality parameters are
presented in Table 5-3; Table 5-6 details the results of
the in situ and field determined water quality parameters.

The structure of the phytoplankton assemblage varied from
primarily diatom-dominated communities (Melosira sp.) at

1. ROB = right overbank.
MC = midchannel.
LOB = left overbank.

TRM 315.0 (LOB, MC), TRM 289.9 (MC, ROB), TRM 345.2 (LOB), and HSBM 5.37 to cyanophyte-dominated communities (Anacystis sp. or Merismopedia sp.) at all other stations. For individual sample analyses results see Tables 5-7A and 5-7B.

B. Zooplankton

1. Stations Sampled

HSBM 0.0, HSBM 1.3, HSBM 2.4, HSBM 5.37, HSBM 5.9, ICM 0.0, ICM 4.0, BFCM 1.2, TRM 289.9, TRM 315.0, TRM 345.2, TRM 350.0.

2. Number of Samples Collected

There were 60 samples collected for DDTR analyses and 60 for identifications.

3. Number of Analyses Performed

There were 29 total DDTR analyses made on the samples (see Table 5-3). Many samples were composited to obtain sufficient sample size for analyses. There were 39 identifications/analyses performed.

4. Taxonomic Data

The species structure of the zooplankton community changed from a cladoceran-dominated (Bosmina longirostris) one at the river stations (TRM 350.0 and 345.2) and ICM 0.0 to a rotifer-dominated (Brachionus calyciflorus) one in the HSB/IC system. (See Tables 5-8A and 5-8B). The number of taxa was slightly higher in the HSB/IC system (mean, 44) than in the river (mean, 39). No identification/enumeration analysis was done on samples collected at HSBM 0.0, TRM 289.9, and TRM 315.0.

C. Benthic Macroinvertebrates

1. Stations Sampled

ICM 0.0; ICM 4.0; BFCM 1.2; HSBM 0.0; HSBM 1.3; HSBM 2.4; HSBM 4.3; HSBM 5.37; HSBM 5.4; HSBM 5.9; TRM 289.9; TRM 315.0 LOB, MC, ROB; TRM 345.3 LOB, MC, ROB; TRM 350.0 LOB, MC, ROB; ERM 20.7, FRM 22.7, LCM 18.0.

2. Number of Samples Collected

Several stations yielded insufficient organisms for DDTR analyses; these were ICM 0.0, ICM 4.0, HSBM 1.3, HSBM 2.4, HSBM 5.4, and HSBM 5.9. Samples from 15 of the stations were collected in duplicate before the workplan was finalized specifying triplicate samples. Consequently, only 33 composite samples were collected for DDTR analyses. One hundred seventy one samples were collected for identification.

3. Number of Analyses Performed

All 33 composites for DDTR were analyzed and reported (see Table 5-3). Identifications and enumerations were performed on 108 samples.

4. Taxonomic Data

The benthic macroinvertebrate populations varied from a Chironomidae/Tubificidae/Hexagenia community structure in the reservoir stations (TRM 350 and 345.3) to an Oligochaeta (Tubificidae)/Chironomidae community structure in the more organically enriched Huntsville Spring Branch/Indian Creek system (see Table 5-9). Gastropods and molluscs (with the exception of Sphaerium sp.) were generally not found in the HSB/IC system. Conversely, the odonates Libellulidae

and Macromiidae, and the isopod, Asellus sp., were only found in the HSB/IC system. Coleopterans were found only in one tributary station, ERM 20.7, and megalopterans were found only at TRM 350.0 LOB.

D. Aufwuchs

Although the plant and animal portions of the aufwuchs were sampled, only the animal samples were analyzed.

1. Stations Sampled

ICM 0.0; ICM 4.0; BFCM 1.2; HSBM 0.0; HSBM 1.3; HSBM 2.4; HSBM 5.37; HSBM 5.9; TRM 289.9 LOB, MC, ROB; TRM 315.0 LOB, ROB; TRM 345.2 LOB, ROB; TRM 350.0 LOB, ROB.

2. Number of Samples Collected

Although 69 samplers were placed, vandalism or natural phenomena caused the loss of samplers at some stations. There were 32 Hester-Dendy traps recovered for DDTR analyses and 12 recovered for identification and enumeration.

3. Number of Analyses Performed

DDTR analyses were performed on 32 samples (see Table 5-3). Identifications were done on eight of the Hester-Dendy samplers.

4. Taxonomic Data

The community data from the Hester-Dendy traps shows a shift in structure from a trichopteran-dominated structure in the river (TRM 350.0 and 345.2) to a chironomid dominated one in the HSB/IC system (see Table 5-10). Hydropsychids, planarians, and amphipods were found in the Tennessee River but not in the HSB/IC system. Conversely, odonates and

molluscs were found on the samplers from the HSB/IC system but not from those in the Tennessee River.

E. Aquatic Vascular Plants

1. Stations and Species Sampled

Samples of two aquatic plant species, buttonbush (Cephalanthus occidentalis L.) and halberd-leaved marsh mallow (Hibiscus militaris Cav.) were collected from the following localities: TRM 293.0 (LOB), TRM 305.1 (ROB), TRM 328.5 (LOB), TRM 359.0 (ROB), ICM 4.2, ICM 6.7, ICM 7.0, HSBM 2.5, HSBM 4.5. Buttonbush samples also were collected at HSBM 5.6. Duckweed, consisting of a mixture of Lemna sp. and Spirodela polyrrhiza (L.) Schield., was collected from along Huntsville Spring Branch at HSBM 4.5 and HSBM 5.6. Samples of Hibiscus and Cephalanthus consisted of seeds, fruits, and stems and leaves from the upper portion of the plant. In the case of duckweed, the entire plant was collected for analysis.

With the exception of the collection of duckweed from HSBM 4.5 and collections of Hibiscus and Cephalanthus from ICM 2.5, three replicates of each species were collected at sampling localities. Only two replicates of duckweed were collected at HSBM 4.5 due to the paucity of plants at this station.

Buttonbush and halberd-leaved marsh mallow were selected because of their common and widespread occurrence along Indian Creek, Huntsville Spring Branch, and mainstream reservoirs of the Tennessee River. Halberd-leaved marsh

mallow is an herbaceous, emergent species typically found along the margins of streams, rivers, embayments, and overbank areas of reservoirs, while buttonbush is a woody shrub commonly found in shallow water in similar habitats to those described for Hibiscus. Both species frequently grow on mud flats that are inundated during the early portion of the growing season. Habitats from which the two species mentioned above were collected include stream and reservoir margins, the shallow water of beaver ponds, and margins of embayments. Duckweed, a small floating herbaceous plant that frequently covers the water surface in sloughs and backwater areas with restricted flow, was collected from the still water of beaver ponds along Huntsville Spring Branch. The upper and lower portions of Indian Creek embayment were searched for duckweed but no colonies were found in these areas at the time of collection.

The samples of Hibiscus and Cephalanthus were not washed prior to sample shipment. While the lower portions of these plants are frequently covered with sediments deposited during times of high water (i.e., spring and early summer), the upper plant portions were not covered with excessive sediments. However, some adherence of soil particulates to the upper portions of these plants undoubtedly occurred as a result of fluctuations in water levels and other phenomena. The relatively small amount of sediment on the collected plant structures would most likely be ingested by feeding herbivores. The collections of

duckweed were field washed by gently 'sloshing' the plants in their surrounding water medium. This removed the major portion of floating organic debris commonly associated with duckweed colonies. Due to the small size of duckweeds and associated organic debris, some non-living organic material was inadvertently included in the duckweed samples.

2. Number of Samples Collected/Number of Analyses Performed

A total of 62 samples were collected and DDT residue analyses performed on 31 samples of Cephalanthus, 26 samples of Hibiscus, and 5 samples of duckweed. One sample of Cephalanthus collected at HSBM 4.5 was lost during lab preparation (see Table 5-3).

F. Whole Water and Sediment

Whole water and sediment samples were collected from two tributary stations above the influence of Wheeler Reservoir.

1. Stations Sampled

LCM 18.0 ROB, LOB; FRM 22.7 ROB, LOB.

2. Number of Samples Collected

One whole water sample and two sediment samples were collected at each station resulting in two whole water samples and four sediment samples for DDTR analyses.

3. Number of Analyses Performed

Two whole water DDTR analyses and four sediment analyses were performed (see Table 5-3).

III. Late Fall/Early Winter

A. Phytoplankton/Inorganic

No samples were collected for DDTR analysis or identification/enumeration.

B. Zooplankton

1. Stations Sampled

ICM 0.8; ICM 4.6; HSBM 2.4; HSBM 5.9.

2. Number of Samples Collected

Triplicate samples were collected at all stations for a total of 12 samples for DDTR analyses and 12 samples for determining percentage zooplankton, percentage other organics, and percentage inorganic particles.

3. Number of Analyses Performed

There were six DDTR analyses performed, some replicate samples had to be combined to yield sufficient sample volume for analysis (see Table 5-3). There were 14 particle percentage determinations made with one sample analyzed at three different dilution volumes (see Table 5-11).

4. Taxonomic Data

No samples were analyzed for species composition/enumeration.

C. Benthic Macroinvertebrates

1. Stations Sampled

ICM 0.8; ICM 4.6; HSBM 2.4; HSBM 5.9.

2. Number of Samples Collected

Triplicate samples were collected for DDTR analyses at each station. Six dredge hauls were taken at each of three locations (25, 50, and 75 percent) on a horizontal transect at each station. The six dredge hauls at each percentage point were composited to yield three samples per river mile.

3. Number of Analyses Performed

Each composite sample was analyzed for DDTR, yielding 12 DDTR data points (see Table 5-3).

4. Taxonomic Data

The benthic macroinvertebrate samples were not subjected to identification/enumeration analysis.

D. Aufwuchs

No aufwuchs samples were taken for DDTR analysis or identification/ enumeration.

E. Aquatic Vascular Plants

No macrophyte samples were taken for DDTR analysis.

F. Whole Water and Sediments

No samples were collected for DDTR analysis.

Table 5-3

SUMMARY OF CHEMICAL DATA FOR TASK 5

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASKS - AQUATIC BIOTRANSFORM (EXCLUDING VERTEBRATES)

STREAM	MILE	LOCALITY	DATE	LABID	SAMPLE TYPE-SPECIES	WEIGHT (GM)	TOTAL CONCENTRATIONS OF DDT IN AQUATIC ORGANISMS										--TOTAL DDT--	
							DDT-O,P (UG/G)	DDT-P (UG/G)	DDD-O,P (UG/G)	DDD-P (UG/G)	DDO-O,P (UG/G)	DDO-P (UG/G)	DDO-O,P (UG/G)	DDO-P (UG/G)	DDO-O,P (UG/G)	DDO-P (UG/G)	MIN (UG/G)	MAX (UG/G)
BARRON FORK CREEK	1.20				240CT79 5-187 AUFMUCHS	24.4	< 0.001	0.003	0.015	0.009	0.014	0.025	0.066	0.066	0.066	0.066		
BARRON FORK CREEK	1.20				240CT79 5-188 AUFMUCHS	14.0	0.003	0.010	0.074	0.170	0.020	0.081	0.352	0.352	0.352	0.352		
M-VILLE SPRING BR	0.00				240CT79 5-189 AUFMUCHS	26.2	0.050	1.570	1.570	2.220	0.730	1.600	7.740	7.740	7.740	7.740		
M-VILLE SPRING BR	0.00				240CT79 5-190 AUFMUCHS	14.1	0.070	0.450	1.490	2.620	0.570	1.130	6.330	6.330	6.330	6.330		
M-VILLE SPRING BR	1.30				240CT79 5-191 AUFMUCHS	8.100	0.050	20.700	4.840	12.400	1.740	3.720	49.650	49.650	49.650	49.650		
M-VILLE SPRING BR	2.40				240CT79 5-192 AUFMUCHS	16.3	0.430	16.600	3.200	11.000	1.040	2.700	34.970	34.970	34.970	34.970		
M-VILLE SPRING BR	2.40				240CT79 5-193 AUFMUCHS	8.600	0.930	23.200	3.480	9.400	1.390	3.020	41.420	41.420	41.420	41.420		
M-VILLE SPRING BR	5.37				240CT79 5-194 AUFMUCHS	16.4	0.004	0.016	0.029	0.020	0.024	0.010	0.505	0.505	0.505	0.505		
M-VILLE SPRING BR	5.37				240CT79 5-195 AUFMUCHS	10.9	0.006	0.009	0.006	0.017	0.010	0.004	0.052	0.052	0.052	0.052		
M-VILLE SPRING BR	5.90				240CT79 5-196 AUFMUCHS	14.2	0.007	0.010	0.016	0.041	0.031	0.016	0.121	0.121	0.121	0.121		
M-VILLE SPRING BR	5.90				240CT79 5-197 AUFMUCHS	23.5	0.004	0.004	0.020	0.040	0.030	0.020	0.174	0.174	0.174	0.174		
INDIAN CREEK	0.00				240CT79 5-183 AUFMUCHS	67	0.015	0.036	0.280	0.590	0.088	0.230	1.199	1.199	1.199	1.199		
INDIAN CREEK	0.00				240CT79 5-184 AUFMUCHS	19	0.003	0.006	0.110	0.270	0.060	0.150	0.599	0.599	0.599	0.599		
INDIAN CREEK	4.00				240CT79 5-185 AUFMUCHS	28.7	0.049	0.730	0.920	1.110	0.330	0.840	3.979	3.979	3.979	3.979		
INDIAN CREEK	4.00				240CT79 5-186 AUFMUCHS	14.6	0.021	0.110	0.360	0.620	0.130	0.210	1.451	1.451	1.451	1.451		
INDIAN CREEK	289.90				240CT79 5-176 AUFMUCHS	17.6	0.003	0.010	0.016	0.029	0.006	0.015	0.075	0.075	0.075	0.075		
INDIAN CREEK	289.90				240CT79 5-177 AUFMUCHS	9.000	0.011	0.110	0.024	0.049	0.014	0.041	0.249	0.249	0.249	0.249		
INDIAN CREEK	315.00				240CT79 5-178 AUFMUCHS	26.9	0.006	0.032	0.006	0.028	0.006	0.014	0.094	0.094	0.094	0.094		
INDIAN CREEK	315.00				240CT79 5-179 AUFMUCHS	25.8	0.004	0.027	0.009	0.022	0.005	0.012	0.079	0.079	0.079	0.079		
INDIAN CREEK	315.00				240CT79 5-180 AUFMUCHS	29.1	0.003	0.004	0.004	0.008	0.008	0.007	0.034	0.034	0.034	0.034		
INDIAN CREEK	315.00				240CT79 5-181 AUFMUCHS	27.6	0.007	0.007	0.069	0.087	0.203	0.160	0.533	0.533	0.533	0.533		
INDIAN CREEK	315.00				240CT79 5-217 AUFMUCHS	26.5	0.003	0.006	0.025	0.049	0.019	0.074	0.176	0.176	0.176	0.176		
INDIAN CREEK	315.00				240CT79 5-218 AUFMUCHS	34.5	0.006	0.006	0.049	0.078	0.041	0.160	0.340	0.340	0.340	0.340		
INDIAN CREEK	315.00				240CT79 5-219 AUFMUCHS	35.4	0.002	0.003	0.018	0.033	0.015	0.700	0.771	0.771	0.771	0.771		
INDIAN CREEK	315.00				240CT79 5-220 AUFMUCHS	44.9	0.002	0.002	0.016	0.036	0.007	0.021	0.084	0.084	0.084	0.084		
INDIAN CREEK	315.00				240CT79 5-221 AUFMUCHS	44.3	0.003	0.003	0.001	0.002	0.003	0.004	0.016	0.016	0.016	0.016		
INDIAN CREEK	315.00				240CT79 5-222 AUFMUCHS	32.8	0.008	0.009	0.001	0.002	0.008	0.009	0.037	0.037	0.037	0.037		
INDIAN CREEK	315.00				240CT79 5-223 AUFMUCHS	27.6	0.006	0.009	0.001	0.003	0.009	0.006	0.029	0.029	0.029	0.029		
INDIAN CREEK	315.00				240CT79 5-181 AUFMUCHS	11.3	0.003	0.003	0.003	0.007	0.002	0.004	0.016	0.016	0.016	0.016		
INDIAN CREEK	315.00				240CT79 5-182 AUFMUCHS	7.300	0.003	0.005	0.007	0.014	0.005	0.010	0.041	0.041	0.041	0.041		
INDIAN CREEK	315.00				240CT79 5-224 AUFMUCHS	6.400	0.006	0.006	0.005	0.005	0.005	0.005	0.010	0.010	0.010	0.010		
INDIAN CREEK	315.00				240CT79 5-225 AUFMUCHS	5.600	0.005	0.005	0.005	0.005	0.005	0.005	0.009	0.009	0.009	0.009		
INDIAN CREEK	315.00				240CT79 5-226 AUFMUCHS	7.700	0.005	0.005	0.005	0.010	0.005	0.007	0.027	0.027	0.027	0.027		
INDIAN CREEK	315.00				240CT79 5-227 AUFMUCHS	9.500	0.004	0.004	0.004	0.003	0.003	0.003	0.006	0.006	0.006	0.006		
BARRON FORK CREEK	1.20				14SEP79 5-047 BENTHOS	3.600	< 0.006	0.020	0.450	0.990	0.180	0.460	2.060	2.060	2.060	2.060		
BARRON FORK CREEK	1.20				14SEP79 5-048 BENTHOS	3.600	0.140	0.310	0.450	0.990	0.180	0.460	2.060	2.060	2.060	2.060		
ELK RIVER	20.70				18OCT79 5-116 BENTHOS	15.8	0.260	0.990	0.467	0.990	0.051	0.130	1.508	1.508	1.508	1.508		
ELK RIVER	20.70				18OCT79 5-117 BENTHOS	21.5	0.002	0.005	0.001	0.001	0.002	0.001	0.011	0.011	0.011	0.011		
ELK RIVER	22.70				25OCT79 5-173 BENTHOS	36.5	0.005	0.033	0.001	0.007	0.002	0.012	0.060	0.060	0.060	0.060		
ELK RIVER	22.70				25OCT79 5-174 BENTHOS	48.1	0.003	0.014	0.002	0.006	0.002	0.010	0.037	0.037	0.037	0.037		
ELK RIVER	22.70				25OCT79 5-175 BENTHOS	41.8	0.003	0.014	0.002	0.006	0.002	0.010	0.037	0.037	0.037	0.037		
ELK RIVER	22.70				25OCT79 5-176 BENTHOS	0.600	1.000	6.980	2.970	4.400	3.050	6.140	28.540	28.540	28.540	28.540		
ELK RIVER	22.70				25OCT79 5-177 BENTHOS	0.700	3.180	14.900	4.210	22.200	4.260	6.680	55.330	55.330	55.330	55.330		
ELK RIVER	22.70				25OCT79 5-178 BENTHOS	1.700	28.700	280	69.900	173	27.300	9.300	63.200	63.200	63.200	63.200		
ELK RIVER	22.70				25OCT79 5-179 BENTHOS	1.700	28.700	280	69.900	173	27.300	9.300	63.200	63.200	63.200	63.200		
ELK RIVER	22.70				25OCT79 5-180 BENTHOS	1.700	28.700	280	69.900	173	27.300	9.300	63.200	63.200	63.200	63.200		
ELK RIVER	22.70				25OCT79 5-181 BENTHOS	1.700	28.700	280	69.900	173	27.300	9.300	63.200	63.200	63.200	63.200		
ELK RIVER	22.70				25OCT79 5-182 BENTHOS	1.700	28.700	280	69.900	173	27.300	9.300	63.200	63.200	63.200	63.200		
ELK RIVER	22.70				25OCT79 5-183 BENTHOS	1.700	28.700	280	69.900	173	27.300	9.300	63.200	63.200	63.200	63.200		
ELK RIVER	22.70				25OCT79 5-184 BENTHOS	1.700	28.700	280	69.900	173	27.300	9.300	63.200	63.200	63.200	63.200		
ELK RIVER	22.70				25OCT79 5-185 BENTHOS	1.700	28.700	280	69.900	173	27.300	9.300	63.200	63.200	63.200	63.200		
ELK RIVER	22.70				25OCT79 5-186 BENTHOS	1.700	28.700	280	69.900	173	27.300	9.300	63.200	63.200	63.200	63.200		
ELK RIVER	22.70				25OCT79 5-187 BENTHOS	1.700	28.700	280	69.900	173	27.300	9.300	63.200	63.200	63.200	63.200		
ELK RIVER	22.70				25OCT79 5-188 BENTHOS	1.700	28.700	280	69.900	173	27.300	9.300	63.200	63.200	63.200	63.200		
ELK RIVER	22.70				25OCT79 5-189 BENTHOS	1.700	28.700	280	69.900	173	27.300	9.300	63.200	63.200	63.200	63.200		
ELK RIVER	22.70				25OCT79 5-190 BENTHOS	1.700	28.700	280	69.900	173	27.300	9.300	63.200	63.200	63.200	63.200		
ELK RIVER	22.70				25OCT79 5-191 BENTHOS	1.700	28.700	280	69.900	173	27.300	9.300	63.200	63.200	63.200	63.200		
ELK RIVER	22.70				25OCT79 5-192 BENTHOS	1.700	28.700	280	69.900	173	27.300	9.300	63.200	63.200	63.200	63.200		
ELK RIVER	22.70				25OCT79 5-193 BENTHOS	1.700	28.700	280	69.900	173	27.300	9.300	63.200	63.200	63.200	63.200		
ELK RIVER	22.70				25OCT79 5-194 BENTHOS	1.700	28.700	280	69.900	173	27.300	9.300	63.200	63.200	63.200	63.200		
ELK RIVER	22.70				25OCT79 5-195 BENTHOS	1.700	28.700	280	69.900	173	27.300	9.300	63.200	63.200	63.200	63.200		
ELK RIVER	22.70				25OCT79 5-196 BENTHOS	1.700	28.700	280	69.900	173	27.300	9.300	63.200	63.200	63.200	63.200		
ELK RIVER	22.70				25OCT79 5-197 BENTHOS	1.700	28.700	280	69.900	173	27.300	9.300	63.200	63.200	63.200	63.200		
ELK RIVER	22.70				25OCT79 5-198 BENTHOS	1.700	28.700	280	69.900	173	27.300	9.300	63.200	63.200	63.200			

ENGINEERING AND ENVIRONMENTAL STUDY OF SOOT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELAN RESERVOIR, ALABAMA

TASK 4 - AQUATIC BENTHOSCOPY (EXCLUDING VERTEBRATES)

STREAM	WELL	HORIZONTAL LOCATION	DATE	LARGE	SAMPLE TYPE-SPECIES	WEIGHT (GM)	TOTAL CONCENTRATIONS OF DDT IN AQUATIC ORGANISMS					TOTAL DDT--	
							DDT-P,P (UG/G)	DDT-P,P (UG/G)	DDT-P,P (UG/G)	DDT-P,P (UG/G)	DDT-P,P (UG/G)	MIN (UG/G)	MAX (UG/G)
M-VILLE SPRING BR	5-37		180CT79	5-111	BENTHOS	2,100	7,730	3571	90,100	1486	86,900	333	5577.13
M-VILLE SPRING BR	5-37		180CT79	5-112	BENTHOS	2,100	59,500	200	5,430	86,900	5,710	31,000	389,540
M-VILLE SPRING BR	5-37		180CT79	5-113	BENTHOS	2,700	127	1590	55,600	259	38,900	94,500	2165
M-VILLE SPRING BR	5-37		180CT79	5-114	BENTHOS	1,600	< 1,000	< 1,000	1,480	4,520	6,670	1,330	8,010
M-VILLE SPRING BR	5-37		180CT79	5-115	BENTHOS	1,100	< 1,000	< 1,000	0,200	0,440	0,130	0,220	0,790
M-VILLE SPRING BR	5-37		180CT79	5-116	BENTHOS	1,400	< 2,000	< 2,000	0,500	0,670	< 0,400	< 0,400	5,570
M-VILLE SPRING BR	5-37		180CT79	5-117	BENTHOS	27,2	0,180	< 0,100	4,200	7,540	1,930	3,690	17,530
M-VILLE SPRING BR	5-37		180CT79	5-118	BENTHOS	29,2	0,300	0,000	6,550	14,200	7,880	7,150	31,140
M-VILLE SPRING BR	5-37		180CT79	5-119	BENTHOS	1,700	9,000	< 11,000	51,100	44,000	9,140	18,400	90,060
M-VILLE SPRING BR	5-37		180CT79	5-120	BENTHOS	0,900	4,110	< 1,000	30,700	53,700	10,600	56,600	255,300
M-VILLE SPRING BR	5-37		180CT79	5-121	BENTHOS	1,100	< 0,800	1,370	2,440	11,000	4,370	22,900	162,010
M-VILLE SPRING BR	5-37		180CT79	5-122	BENTHOS	10,1	19,900	15,600	144	318	39,500	166	708,000
M-VILLE SPRING BR	5-37		180CT79	5-123	BENTHOS	1,600	8,630	< 6,000	73,300	149	31,100	67,200	375,230
M-VILLE SPRING BR	5-37		180CT79	5-124	BENTHOS	36,2	0,015	0,040	0,007	0,015	0,005	0,270	1,005
M-VILLE SPRING BR	5-37		180CT79	5-125	BENTHOS	47	0,002	0,014	0,003	0,007	0,002	0,016	0,045
M-VILLE SPRING BR	5-37		180CT79	5-126	BENTHOS	34	0,004	0,031	0,003	0,007	0,003	0,016	0,064
M-VILLE SPRING BR	5-37		180CT79	5-127	BENTHOS	43,2	0,003	0,002	0,004	0,011	0,005	0,010	0,035
M-VILLE SPRING BR	5-37		180CT79	5-128	BENTHOS	35,2	0,006	0,014	0,036	0,074	0,024	0,065	0,223
M-VILLE SPRING BR	5-37		180CT79	5-129	BENTHOS	35,6	0,002	0,001	0,015	0,007	0,005	0,008	0,038
M-VILLE SPRING BR	5-37		180CT79	5-130	BENTHOS	33,4	0,011	0,012	0,002	0,010	0,007	0,015	0,057
M-VILLE SPRING BR	5-37		180CT79	5-131	BENTHOS	11,6	0,026	0,026	0,140	0,280	0,095	0,220	0,787
M-VILLE SPRING BR	5-37		180CT79	5-132	BENTHOS	9,400	0,022	0,021	0,210	0,380	0,140	0,340	1,114
M-VILLE SPRING BR	5-37		180CT79	5-133	BENTHOS	44,5	0,003	0,005	0,003	0,001	0,004	0,004	0,020
M-VILLE SPRING BR	5-37		180CT79	5-134	BENTHOS	34,6	0,004	0,010	< 0,001	0,002	0,006	0,007	0,034
M-VILLE SPRING BR	5-37		180CT79	5-135	BENTHOS	30,3	0,022	0,021	< 0,001	0,003	0,014	0,015	0,075
M-VILLE SPRING BR	5-37		180CT79	5-136	BENTHOS	44,5	0,023	0,011	< 0,001	0,003	0,006	0,007	0,050
M-VILLE SPRING BR	5-37		180CT79	5-137	BENTHOS	40,9	0,004	0,003	< 0,001	0,001	0,005	0,002	0,015
M-VILLE SPRING BR	5-37		180CT79	5-138	BENTHOS	34,1	0,004	0,003	0,001	0,004	0,004	0,004	0,020
M-VILLE SPRING BR	5-37		180CT79	5-139	BENTHOS	35,7	0,005	0,004	0,001	0,004	0,004	0,004	0,022
M-VILLE SPRING BR	5-37		180CT79	5-140	BENTHOS	44,4	0,009	0,009	< 0,001	0,001	0,007	0,005	0,031
M-VILLE SPRING BR	5-37		180CT79	5-141	BENTHOS	47,7	0,003	0,006	< 0,001	0,001	0,002	0,002	0,015
M-VILLE SPRING BR	5-37		180CT79	5-142	BENTHOS	47,2	0,008	0,006	< 0,001	0,001	0,007	0,005	0,030
M-VILLE SPRING BR	5-37		180CT79	5-143	BENTHOS		0,009	0,047	0,120	0,210	0,019	0,052	0,457
M-VILLE SPRING BR	5-37		180CT79	5-144	BENTHOS		0,012	0,060	0,073	0,150	0,017	0,057	0,369
M-VILLE SPRING BR	5-37		180CT79	5-145	BENTHOS		0,010	0,024	0,053	0,100	0,010	0,024	0,240
M-VILLE SPRING BR	5-37		180CT79	5-146	BENTHOS		0,001	0,002	0,001	0,002	0,001	0,001	0,006
M-VILLE SPRING BR	5-37		180CT79	5-147	BENTHOS		0,017	0,020	0,051	0,078	0,019	0,050	0,235
M-VILLE SPRING BR	5-37		180CT79	5-148	BENTHOS		0,013	0,014	0,032	0,043	0,036	0,036	0,161
M-VILLE SPRING BR	5-37		180CT79	5-149	BENTHOS		0,020	0,028	0,052	0,084	0,019	0,068	0,276
M-VILLE SPRING BR	5-37		180CT79	5-150	BENTHOS		0,001	0,002	0,001	0,001	0,001	0,001	0,007
M-VILLE SPRING BR	5-37		180CT79	5-151	BENTHOS		0,001	0,004	0,001	0,001	0,002	0,002	0,011
M-VILLE SPRING BR	5-37		180CT79	5-152	BENTHOS		0,001	0,002	0,001	0,001	0,001	0,001	0,007
M-VILLE SPRING BR	5-37		180CT79	5-153	BENTHOS		0,002	0,004	0,031	0,076	0,007	0,017	0,137
M-VILLE SPRING BR	5-37		180CT79	5-154	BENTHOS		0,001	0,008	0,031	0,034	0,004	0,011	0,074
M-VILLE SPRING BR	5-37		180CT79	5-155	BENTHOS		0,002	0,004	0,010	0,044	0,004	0,012	0,089
M-VILLE SPRING BR	5-37		180CT79	5-156	BENTHOS		0,001	0,003	0,001	0,001	0,002	0,002	0,023
M-VILLE SPRING BR	5-37		180CT79	5-157	BENTHOS		0,001	0,003	0,005	0,017	0,002	0,004	0,027

TASKS - AQUATIC BIODIVERSITY (EXCLUDING VERTEBRATES)

STREAM	MILE	HORIZONTAL LOCATION	DATE	LABID	SAMPLE TYPE-SPECIES	WEIGHT (UM)	TOTAL CONCENTRATIONS OF DOT IN AQUATIC ORGANISMS										TOTAL MIN (UG/G)	WTR--MAX (UG/G)
							DOT-O,P (UG/G)	DOT-G (UG/G)	DOT-G,P (UG/G)	DDO-G (UG/G)	DDO-G,P (UG/G)	DDO-O,P (UG/G)	DDO-P (UG/G)	DDO-O,P (UG/G)	DDO-G (UG/G)	DDO-G,P (UG/G)		
INDIAN CREEK	6.70		18OCT79	5-129	CEPHALANTHUS	•	0.001	0.002	0.004	0.008	0.007	0.003	0.020	0.020	0.020			
INDIAN CREEK	7.00		18OCT79	5-118	CEPHALANTHUS	•	0.001	0.003	0.021	0.050	0.005	0.007	0.087	0.087	0.087			
INDIAN CREEK	7.00		18OCT79	5-119	CEPHALANTHUS	•	0.002	0.002	0.004	0.010	0.002	0.002	0.022	0.022	0.022			
INDIAN CREEK	7.00		18OCT79	5-120	CEPHALANTHUS	•	< 0.001	< 0.002	0.003	0.005	0.001	0.002	0.011	0.011	0.011			
TEMESSE RIVER	293.00	LEFT	22OCT79	5-158	CEPHALANTHUS	•	0.001	0.002	0.001	0.002	0.001	0.001	0.007	0.007	0.007			
TEMESSE RIVER	293.00	LEFT	22OCT79	5-159	CEPHALANTHUS	•	0.002	0.003	0.002	0.003	0.002	0.002	0.014	0.014	0.014			
TEMESSE RIVER	305.10	LEFT	22OCT79	5-160	CEPHALANTHUS	•	0.001	0.002	0.001	0.002	0.001	0.003	0.010	0.010	0.010			
TEMESSE RIVER	305.10	RIGHT	22OCT79	5-168	CEPHALANTHUS	•	0.001	0.002	0.001	0.004	0.001	0.002	0.011	0.011	0.011			
TEMESSE RIVER	305.10	RIGHT	23OCT79	5-199	CEPHALANTHUS	•	0.001	0.003	0.001	0.003	0.001	0.001	0.010	0.010	0.010			
TEMESSE RIVER	305.10	RIGHT	23OCT79	5-200	CEPHALANTHUS	•	0.001	0.002	0.001	0.002	0.001	0.001	0.006	0.006	0.006			
TEMESSE RIVER	328.50	LEFT	25OCT79	5-204	CEPHALANTHUS	•	0.001	0.002	0.001	0.001	0.001	0.001	0.007	0.007	0.007			
TEMESSE RIVER	328.50	LEFT	25OCT79	5-205	CEPHALANTHUS	•	< 0.001	0.002	0.001	0.001	0.001	0.001	0.006	0.006	0.006			
TEMESSE RIVER	328.50	LEFT	25OCT79	5-206	CEPHALANTHUS	•	0.001	0.002	0.001	0.001	0.001	0.001	0.007	0.007	0.007			
TEMESSE RIVER	359.60	RIGHT	25OCT79	5-210	CEPHALANTHUS	•	< 0.001	< 0.002	< 0.001	< 0.001	< 0.001	< 0.001	0.007	0.007	0.007			
TEMESSE RIVER	359.60	RIGHT	25OCT79	5-211	CEPHALANTHUS	•	0.001	0.002	0.001	0.001	0.001	0.001	0.007	0.007	0.007			
TEMESSE RIVER	359.60	RIGHT	25OCT79	5-212	CEPHALANTHUS	•	< 0.001	< 0.002	< 0.001	< 0.001	< 0.001	< 0.001	0.007	0.007	0.007			
M-VILLE SPRING BR	5.60		18OCT79	5-133	DUCKWEED	•	0.002	0.004	0.005	0.013	0.008	0.007	0.039	0.039	0.039			
M-VILLE SPRING BR	5.60		18OCT79	5-134	DUCKWEED	•	< 0.001	0.018	0.057	0.018	0.031	0.013	0.135	0.135	0.135			
M-VILLE SPRING BR	5.60		18OCT79	5-135	DUCKWEED	•	0.002	0.004	0.005	0.011	0.005	0.013	0.040	0.040	0.040			
M-VILLE SPRING BR	2.50		18OCT79	5-149	MIBISCUS	•	0.024	0.049	0.230	0.320	0.061	0.210	0.894	0.894	0.894			
M-VILLE SPRING BR	2.50		18OCT79	5-149	MIBISCUS	•	0.018	0.046	0.170	0.230	0.045	0.120	0.679	0.679	0.679			
M-VILLE SPRING BR	4.50		18OCT79	5-139	MIBISCUS	•	0.011	0.028	0.032	0.040	0.010	0.033	0.154	0.154	0.154			
M-VILLE SPRING BR	4.50		18OCT79	5-141	MIBISCUS	•	0.013	0.062	0.038	0.046	0.012	0.041	0.232	0.232	0.232			
M-VILLE SPRING BR	4.50		18OCT79	5-141	MIBISCUS	•	0.072	0.450	0.120	0.190	0.036	0.110	0.978	0.978	0.978			
INDIAN CREEK	4.20		18OCT79	5-153	MIBISCUS	•	0.003	0.004	0.058	0.087	0.014	0.042	0.208	0.208	0.208			
INDIAN CREEK	4.20		18OCT79	5-155	MIBISCUS	•	0.002	0.003	0.042	0.075	0.009	0.028	0.159	0.159	0.159			
INDIAN CREEK	6.70		18OCT79	5-144	MIBISCUS	•	0.001	0.002	0.034	0.061	0.008	0.034	0.145	0.145	0.145			
INDIAN CREEK	6.70		18OCT79	5-125	MIBISCUS	•	< 0.001	< 0.002	0.010	0.019	0.003	0.003	0.034	0.034	0.034			
INDIAN CREEK	6.70		18OCT79	5-126	MIBISCUS	•	0.001	0.002	0.014	0.030	0.003	0.007	0.034	0.034	0.034			
INDIAN CREEK	7.00		18OCT79	5-121	MIBISCUS	•	0.001	0.003	0.019	0.035	0.004	0.007	0.119	0.119	0.119			
INDIAN CREEK	7.00		18OCT79	5-122	MIBISCUS	•	< 0.001	< 0.002	0.003	0.006	0.002	0.002	0.013	0.013	0.013			
INDIAN CREEK	7.00		18OCT79	5-123	MIBISCUS	•	0.002	0.004	0.020	0.041	0.007	0.007	0.061	0.061	0.061			
TEMESSE RIVER	293.00	LEFT	22OCT79	5-161	MIBISCUS	•	0.001	0.002	0.004	0.005	0.001	0.001	0.012	0.012	0.012			
TEMESSE RIVER	293.00	LEFT	22OCT79	5-162	MIBISCUS	•	< 0.001	< 0.002	< 0.001	0.002	0.001	0.002	0.009	0.009	0.009			
TEMESSE RIVER	293.00	LEFT	22OCT79	5-163	MIBISCUS	•	< 0.001	< 0.002	< 0.001	< 0.001	< 0.001	< 0.001	0.007	0.007	0.007			
TEMESSE RIVER	305.10	RIGHT	22OCT79	5-163	MIBISCUS	•	< 0.001	< 0.002	< 0.001	< 0.001	< 0.001	< 0.001	0.007	0.007	0.007			
TEMESSE RIVER	305.10	RIGHT	23OCT79	5-202	MIBISCUS	•	0.002	0.004	0.062	0.005	0.002	0.003	0.018	0.018	0.018			
TEMESSE RIVER	305.10	RIGHT	23OCT79	5-203	MIBISCUS	•	0.001	0.008	0.002	0.004	0.002	0.002	0.015	0.015	0.015			
TEMESSE RIVER	328.50	LEFT	25OCT79	5-207	MIBISCUS	•	< 0.001	< 0.002	0.001	0.004	0.002	0.003	0.016	0.016	0.016			
TEMESSE RIVER	328.50	LEFT	25OCT79	5-208	MIBISCUS	•	< 0.001	< 0.002	0.001	0.001	0.001	0.001	0.005	0.005	0.005			
TEMESSE RIVER	328.50	LEFT	25OCT79	5-209	MIBISCUS	•	0.001	0.002	0.001	0.001	0.002	0.001	0.007	0.007	0.007			
TEMESSE RIVER	359.60	RIGHT	25OCT79	5-213	MIBISCUS	•	0.001	0.002	0.001	0.001	0.001	0.001	0.007	0.007	0.007			
TEMESSE RIVER	359.60	RIGHT	25OCT79	5-214	MIBISCUS	•	< 0.001	< 0.002	< 0.001	< 0.001	< 0.001	< 0.001	0.007	0.007	0.007			
TEMESSE RIVER	359.60	RIGHT	25OCT79	5-215	MIBISCUS	•	< 0.001	< 0.002	< 0.001	< 0.001	< 0.001	< 0.001	0.007	0.007	0.007			

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASKS - AQUATIC BIOTRANSPORT (EXCLUDING VERTERATES)

STREAM	MILE	HORIZONTAL LOCATION	DATE	LABIO	SAMPLE TYPE-SPECIES	WEIGHT (GM)	TOTAL CONCENTRATIONS OF DDT IN AQUATIC ORGANISMS										--TOTAL DDT--	
							DDT-P, P (UG/G)	DDT-P, P (UG/G)	DDT-P, P (UG/G)	DDT-P, P (UG/G)	DDT-P, P (UG/G)	DDT-P, P (UG/G)	DDT-P, P (UG/G)	DDT-P, P (UG/G)	DDT-P, P (UG/G)	DDT-P, P (UG/G)	MIN (UG/G)	MAX (UG/G)
M-VILLE SPRING BR	4.50		18JCT79	5-142	LEMNA-SPIRODELA	< 0.001	0.410	0.740	1.790	0.240	0.550	3.750	3.751					
M-VILLE SPRING BR	4.50		18JCT79	5-143	LEMNA-SPIRODELA	< 0.007	1.740	1.410	2.610	0.400	1.010	7.440	7.440					
FLINT RIVER	22.70	LT. BANK	25JCT79	5-171	SEDIMENT		0.014	0.006	0.012	0.004	0.032	0.114	0.114					
FLINT RIVER	22.70	RT. BANK	25JCT79	5-172	SEDIMENT		< 0.007	0.012	0.005	0.006	0.012	0.030	0.043					
LIMESTONE CREEK	18.00	LT. BANK	25JCT79	5-165	SEDIMENT		< 0.007	0.040	0.005	0.008	0.003	0.048	0.063					
LIMESTONE CREEK	18.00	RT. BANK	25JCT79	5-166	SEDIMENT		0.006	0.018	0.005	0.012	0.004	0.052	0.057					
BARKEN FORK CREEK	1.00		24SEP79	5-105C	ZOOPLANKTON	0.110	0.300	0.410	12.000	21.100	4.550	13.600	51.960	51.960				
M-VILLE SPRING BR	0.00		25SEP79	5-05A	ZOOPLANKTON	0.460	1.410	165	9.660	33.700	3.360	6.030	221.160	221.160				
M-VILLE SPRING BR	0.00		25SEP79	5-035	ZOOPLANKTON	0.320	2.350	291	21.900	78.000	7.750	16.100	416.100	416.100				
M-VILLE SPRING BR	0.00		25SEP79	5-096	ZOOPLANKTON	0.400	2.750	264	18.700	69.200	6.740	16.300	359.640	359.640				
M-VILLE SPRING BR	1.30		25SEP79	5-087C	ZOOPLANKTON	0.250	2.750	264	45.000	109	12.500	31.300	464.550	464.550				
M-VILLE SPRING BR	1.30		25SEP79	5-088	ZOOPLANKTON	0.260	19.500	326	40.300	156	19.400	58.000	689.600	689.600				
M-VILLE SPRING BR	2.40		24SEP79	5-090C	ZOOPLANKTON	0.260	19.500	326	40.300	200	15.300	38.900	640.000	640.000				
M-VILLE SPRING BR	2.40		24SEP79	5-091	ZOOPLANKTON	0.270	20.000	942	46.200	175	13.500	38.500	1230.4	1230.4				
M-VILLE SPRING BR	2.40		15DEC79	5M-05	ZOOPLANKTON	0.121	21.500	532	12.800	135	4.830	31.700	880.350	880.350				
M-VILLE SPRING BR	2.40		15DEC79	5M-06	ZOOPLANKTON	0.222	33.000	1270	23.500	109	4.260	21.700	880.350	880.350				
M-VILLE SPRING BR	5.37		25SEP79	5-093	ZOOPLANKTON	0.450	22.100	139	4.110	13.300	4.440	53.500	1617.99	1617.99				
M-VILLE SPRING BR	5.37		25SEP79	5-094C	ZOOPLANKTON	0.290	8.280	126	1.900	12.400	1.550	12.800	199.750	199.750				
M-VILLE SPRING BR	5.90		25SEP79	5-096C	ZOOPLANKTON	0.340	0.520	7.210	0.340	0.910	0.270	0.410	9.660	9.660				
M-VILLE SPRING BR	5.90		15DEC79	5M-13C	ZOOPLANKTON	0.162	0.060	1.150	0.100	0.240	0.120	0.060	1.670	1.670				
INDIAN CREEK	0.00		15DEC79	5-013C	ZOOPLANKTON	0.280	0.410	1.610	11.800	22.700	3.390	8.210	48.120	48.120				
INDIAN CREEK	0.80		15DEC79	5M-14C	ZOOPLANKTON	0.003	0.110	2.130	0.140	0.460	0.060	0.130	3.030	3.030				
INDIAN CREEK	4.00		25SEP79	5-011C	ZOOPLANKTON	0.180	0.890	60.000	32.100	63.900	9.730	22.800	190.020	190.020				
INDIAN CREEK	4.00		25SEP79	5-102	ZOOPLANKTON	0.210	1.670	82.800	13.800	29.300	5.470	12.700	145.740	145.740				
INDIAN CREEK	4.00		15DEC79	5M-10C	ZOOPLANKTON	0.260	1.540	133	12.200	27.700	4.910	10.800	190.150	190.150				
INDIAN CREEK	4.00		25SEP79	5-048C	ZOOPLANKTON	0.300	0.230	252	9.230	58.100	3.630	9.690	338.660	338.660				
INDIAN CREEK	4.00		25SEP79	5-051C	ZOOPLANKTON	0.260	0.100	1.530	0.930	1.670	0.470	0.900	5.730	5.730				
INDIAN CREEK	4.00		25SEP79	5-054C	ZOOPLANKTON	0.100	0.300	1.500	0.300	1.350	0.420	0.810	4.200	4.200				
INDIAN CREEK	4.00		25SEP79	5-057C	ZOOPLANKTON	1.000	0.030	0.450	0.130	0.330	0.080	0.500	3.800	3.800				
INDIAN CREEK	4.00		25SEP79	5-060C	ZOOPLANKTON	1.300	0.020	0.092	0.031	0.092	0.031	0.023	0.269	0.269				
INDIAN CREEK	4.00		25SEP79	5-063C	ZOOPLANKTON	1.690	0.030	0.080	0.020	0.068	0.020	0.023	0.171	0.171				
INDIAN CREEK	4.00		25SEP79	5-066C	ZOOPLANKTON	1.000	0.020	0.059	0.010	0.030	0.012	0.012	0.113	0.113				
INDIAN CREEK	4.00		25SEP79	5-072	ZOOPLANKTON	1.300	0.030	0.110	0.020	0.050	0.040	0.020	0.240	0.240				
INDIAN CREEK	4.00		25SEP79	5-073	ZOOPLANKTON	1.000	0.030	0.092	0.039	0.085	0.031	0.023	0.270	0.270				
INDIAN CREEK	4.00		25SEP79	5-074	ZOOPLANKTON	1.100	0.030	0.050	0.020	0.020	0.020	0.010	0.050	0.050				
INDIAN CREEK	4.00		25SEP79	5-075C	ZOOPLANKTON	0.320	0.190	0.046	0.020	0.020	0.030	0.010	0.046	0.046				
INDIAN CREEK	4.00		25SEP79	5-076C	ZOOPLANKTON	0.400	0.530	0.810	0.190	0.380	0.130	0.130	1.830	1.830				
INDIAN CREEK	4.00		25SEP79	5-077C	ZOOPLANKTON	0.210	0.140	1.100	0.480	1.050	0.150	0.350	9.560	9.560				
INDIAN CREEK	4.00		25SEP79	5-078C	ZOOPLANKTON	0.210	0.140	1.100	0.190	0.670	0.140	0.190	2.430	2.430				

FOOTNOTES:

A. MINIMUM TOTAL DDT CALCULATED BY SETTING ALL LESS THAN VALUES TO ZERO.

B. MAXIMUM TOTAL DDT CALCULATED BY SETTING ALL LESS THAN VALUES TO THEIR ABSOLUTE VALUE.

TASKS - AQUATIC BICENTENARY (EXCLUDING VERTEBRATES)

STREAM	MILE	HORIZONTAL LOCATION	LABID	SAMPLE TYPE-SPECIES	TOTAL CONCENTRATIONS OF DDT-----										TOTAL	
					DDT-O,P (UG/L)	DDT-P,P (UG/L)	DDD-O,P (UG/L)	DDD-P,P (UG/L)	DDO-O,P (UG/L)	DDO-P,P (UG/L)	DDT-O,P (UG/L)	DDT-P,P (UG/L)	MIN (UG/L)	MAX (UG/L)		
BARREN FORK CREEK	1.20		24SEP79	5-016A PHYTOPLANKTON	< 0.080	< 0.080	0.150	0.240	< 0.040	< 0.040	0.410	0.410	0.410	0.410		
BARREN FORK CREEK	1.20		24SEP79	5-016B PHYTOPLANKTON	< 0.060	< 0.090	0.170	0.310	< 0.040	0.050	0.530	0.530	0.530	0.530		
BARREN FORK CREEK	1.20		24SEP79	5-016C PHYTOPLANKTON	< 0.080	< 0.080	0.080	0.270	< 0.040	0.040	0.420	0.420	0.420	0.420		
M-WILE SPRING BR	0.00		25SEP79	5-019A PHYTOPLANKTON	0.800	1.400	1.920	3.080	0.190	0.280	7.670	7.670	7.670	7.670		
M-WILE SPRING BR	0.00		25SEP79	5-019B PHYTOPLANKTON	< 0.100	0.310	1.140	2.830	0.300	0.480	5.200	5.200	5.200	5.200		
M-WILE SPRING BR	0.00		25SEP79	5-019C PHYTOPLANKTON	< 0.080	0.150	1.110	2.230	0.240	0.390	4.120	4.120	4.120	4.120		
M-WILE SPRING BR	1.30		24SEP79	5-017A PHYTOPLANKTON	< 0.100	0.090	1.920	3.790	0.280	0.470	6.650	6.650	6.650	6.650		
M-WILE SPRING BR	1.30		24SEP79	5-017B PHYTOPLANKTON	0.110	0.110	1.940	3.900	0.310	0.530	7.050	7.050	7.050	7.050		
M-WILE SPRING BR	1.30		24SEP79	5-017C PHYTOPLANKTON	0.100	0.120	2.320	4.360	0.240	0.480	6.900	6.900	6.900	6.900		
M-WILE SPRING BR	2.40		24SEP79	5-018A PHYTOPLANKTON	0.190	0.380	3.400	6.440	0.500	1.600	12.660	12.660	12.660	12.660		
M-WILE SPRING BR	2.40		24SEP79	5-018B PHYTOPLANKTON	< 0.080	0.300	3.000	5.610	0.420	0.910	10.510	10.510	10.510	10.510		
M-WILE SPRING BR	5.37		25SEP79	5-020A PHYTOPLANKTON	< 0.080	1.340	0.940	4.960	0.340	0.650	8.280	8.280	8.280	8.280		
M-WILE SPRING BR	5.37		25SEP79	5-020B PHYTOPLANKTON	< 0.080	0.170	0.840	1.980	0.160	0.220	3.460	3.460	3.460	3.460		
M-WILE SPRING BR	5.37		25SEP79	5-020C PHYTOPLANKTON	< 0.080	0.080	0.790	2.030	0.150	0.220	3.190	3.190	3.190	3.190		
M-WILE SPRING BR	5.50		25SEP79	5-021A PHYTOPLANKTON	< 0.080	0.230	0.770	1.760	0.140	0.210	3.110	3.110	3.110	3.110		
M-WILE SPRING BR	5.50		25SEP79	5-021B PHYTOPLANKTON	< 0.080	0.060	0.080	< 0.080	< 0.040	< 0.040	0.000	0.000	0.000	0.000		
M-WILE SPRING BR	5.90		25SEP79	5-021C PHYTOPLANKTON	< 0.080	0.080	0.080	0.140	< 0.040	< 0.040	0.000	0.000	0.000	0.000		
M-WILE SPRING BR	5.90		25SEP79	5-021D PHYTOPLANKTON	< 0.080	0.080	0.080	0.140	< 0.040	< 0.040	0.000	0.000	0.000	0.000		
INDIAN CREEK	0.00		55SEP79	5-002A PHYTOPLANKTON	< 0.080	0.080	0.080	0.090	< 0.040	< 0.040	0.090	0.090	0.090	0.090		
INDIAN CREEK	0.00		55SEP79	5-002B PHYTOPLANKTON	< 0.080	0.080	0.710	1.100	0.130	0.210	2.510	2.510	2.510	2.510		
INDIAN CREEK	0.00		55SEP79	5-002C PHYTOPLANKTON	< 0.080	0.090	0.710	1.480	0.120	0.160	2.580	2.580	2.580	2.580		
INDIAN CREEK	0.00		24SEP79	5-015A PHYTOPLANKTON	< 0.080	0.080	0.080	1.390	0.120	0.190	2.560	2.560	2.560	2.560		
INDIAN CREEK	0.00		24SEP79	5-015B PHYTOPLANKTON	< 0.080	0.080	0.080	0.090	< 0.040	< 0.040	0.090	0.090	0.090	0.090		
INDIAN CREEK	0.00		24SEP79	5-015C PHYTOPLANKTON	< 0.080	0.080	0.080	< 0.090	< 0.040	< 0.040	0.000	0.000	0.000	0.000		
INDIAN CREEK	4.00		55SEP79	5-001A PHYTOPLANKTON	< 0.080	0.080	0.080	< 0.100	< 0.040	< 0.040	0.000	0.000	0.000	0.000		
INDIAN CREEK	4.00		55SEP79	5-001B PHYTOPLANKTON	< 0.080	0.090	1.120	2.260	0.220	0.360	4.050	4.050	4.050	4.050		
INDIAN CREEK	4.00		25SEP79	5-001C PHYTOPLANKTON	< 0.080	0.090	1.180	2.340	0.230	0.360	4.260	4.260	4.260	4.260		
INDIAN CREEK	4.00		25SEP79	5-002A PHYTOPLANKTON	< 0.180	0.100	1.150	2.240	0.230	0.370	4.990	4.990	4.990	4.990		
INDIAN CREEK	4.00		25SEP79	5-002B PHYTOPLANKTON	< 0.080	0.120	0.640	1.980	0.160	0.220	3.500	3.500	3.500	3.500		
INDIAN CREEK	4.00		25SEP79	5-002C PHYTOPLANKTON	< 0.080	0.080	0.790	2.030	0.150	0.220	3.190	3.190	3.190	3.190		
TENNESSEE RIVER	289.400	LT. BANK	24SEP79	5-032C PHYTOPLANKTON	< 0.080	0.230	0.770	1.760	0.140	0.210	3.110	3.110	3.110	3.110		
TENNESSEE RIVER	289.400	LT. BANK	24SEP79	5-032A PHYTOPLANKTON	< 0.080	0.080	0.080	< 0.080	< 0.040	< 0.040	0.000	0.000	0.000	0.000		
TENNESSEE RIVER	289.400	LT. BANK	24SEP79	5-032B PHYTOPLANKTON	< 0.080	0.080	0.080	< 0.080	< 0.040	< 0.040	0.000	0.000	0.000	0.000		
TENNESSEE RIVER	289.400	LT. BANK	24SEP79	5-032C PHYTOPLANKTON	< 0.080	0.080	0.080	< 0.080	< 0.040	< 0.040	0.000	0.000	0.000	0.000		
TENNESSEE RIVER	289.400	MIDDLE	26SEP79	5-033A PHYTOPLANKTON	< 0.080	0.080	0.080	< 0.080	< 0.040	< 0.040	0.000	0.000	0.000	0.000		
TENNESSEE RIVER	289.400	MIDDLE	26SEP79	5-033B PHYTOPLANKTON	< 0.080	0.080	0.080	< 0.080	< 0.040	< 0.040	0.000	0.000	0.000	0.000		
TENNESSEE RIVER	289.400	MIDDLE	26SEP79	5-033C PHYTOPLANKTON	< 0.080	0.080	0.080	< 0.080	< 0.040	< 0.040	0.000	0.000	0.000	0.000		
TENNESSEE RIVER	289.400	MIDDLE	26SEP79	5-033C PHYTOPLANKTON	< 0.080	0.080	0.080	< 0.080	< 0.040	< 0.040	0.000	0.000	0.000	0.000		
TENNESSEE RIVER	289.400	RT. BANK	28SEP79	5-034A PHYTOPLANKTON	< 0.080	0.080	0.080	< 0.080	< 0.040	< 0.040	0.000	0.000	0.000	0.000		
TENNESSEE RIVER	289.400	RT. BANK	28SEP79	5-034B PHYTOPLANKTON	< 0.080	0.080	0.080	< 0.080	< 0.040	< 0.040	0.000	0.000	0.000	0.000		
TENNESSEE RIVER	289.400	RT. BANK	28SEP79	5-034C PHYTOPLANKTON	< 0.080	0.080	0.080	< 0.080	< 0.040	< 0.040	0.000	0.000	0.000	0.000		
TENNESSEE RIVER	315.000	LT. BANK	27SEP79	5-023A PHYTOPLANKTON	< 0.080	0.080	0.080	< 0.080	< 0.040	< 0.040	0.000	0.000	0.000	0.000		
TENNESSEE RIVER	315.000	LT. BANK	27SEP79	5-023B PHYTOPLANKTON	< 0.080	0.080	0.080	< 0.080	< 0.040	< 0.040	0.000	0.000	0.000	0.000		
TENNESSEE RIVER	315.000	LT. BANK	27SEP79	5-023C PHYTOPLANKTON	< 0.080	0.080	0.080	< 0.080	< 0.040	< 0.040	0.000	0.000	0.000	0.000		
TENNESSEE RIVER	315.000	MIDDLE	27SEP79	5-024A PHYTOPLANKTON	< 0.080	0.080	0.080	< 0.080	< 0.040	< 0.040	0.000	0.000	0.000	0.000		
TENNESSEE RIVER	315.000	MIDDLE	27SEP79	5-024B PHYTOPLANKTON	< 0.080	0.080	0.080	< 0.080	< 0.040	< 0.040	0.000	0.000	0.000	0.000		
TENNESSEE RIVER	315.000	MIDDLE	27SEP79	5-024C PHYTOPLANKTON	< 0.080	0.080	0.080	< 0.080	< 0.040	< 0.040	0.000	0.000	0.000	0.000		
TENNESSEE RIVER	315.000	RT. BANK	27SEP79	5-025A PHYTOPLANKTON	< 0.080	0.080	0.080	< 0.080	< 0.040	< 0.040	0.000	0.000	0.000	0.000		
TENNESSEE RIVER	315.000	RT. BANK	27SEP79	5-025B PHYTOPLANKTON	< 0.080	0.080	0.080	< 0.080	< 0.040	< 0.040	0.000	0.000	0.000	0.000		
TENNESSEE RIVER	315.000	RT. BANK	27SEP79	5-025C PHYTOPLANKTON	< 0.080	0.080	0.080	< 0.080	< 0.040	< 0.040	0.000	0.000	0.000	0.000		

3

TASKS - ALGALIC ALI JI WANSO DAT (PACCLING VERTFARAYES)

STREAM	MILE	WATER LOCATION	DATE	LAPID TYPE-SPECIES	TOTAL CONCENTRATIONS OF DDT-----						MAX (UG/L)	TOTAL DDT-- (UG/L)
					DDT-n,P (UG/L)	DDT-p,P (UG/L)	DDE-n,P (UG/L)	DDE-o,P (UG/L)	DDE-P,P (UG/L)	MIN		
TENNESSEE RIVER	345+00	Lt. BANK	7/5E/79	S-020A PHYTOPLANKTON	< 0.080	< 0.090	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
TENNESSEE RIVER	345+20	Lt. BANK	7/5E/79	S-020B PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
TENNESSEE RIVER	345+40	Rt. BANK	7/5E/79	S-020C PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
TENNESSEE RIVER	345+60	Rt. BANK	7/5E/79	S-022A PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
TENNESSEE RIVER	345+80	Rt. BANK	7/5E/79	S-022B PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
TENNESSEE RIVER	345+20	MIDDLE	7/5E/79	S-027A PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
TENNESSEE RIVER	345+20	MIDDLE	7/5E/79	S-028A PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
TENNESSEE RIVER	345+20	MIDDLE	7/5E/79	S-028B PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
TENNESSEE RIVER	350+00	Rt. BANK	7/5E/79	S-029A PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
TENNESSEE RIVER	350+00	Rt. BANK	7/5E/79	S-029B PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
TENNESSEE RIVER	350+00	MIDDLE	7/5E/79	S-030A PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
TENNESSEE RIVER	350+00	MIDDLE	7/5E/79	S-030B PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
TENNESSEE RIVER	350+00	MIDDLE	7/5E/79	S-030C PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
TENNESSEE RIVER	350+00	Lt. BANK	7/5E/79	S-031A PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
TENNESSEE RIVER	350+00	Lt. BANK	7/5E/79	S-031B PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
TENNESSEE RIVER	350+00	Lt. BANK	7/5E/79	S-031C PHYTOPLANKTON	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.400
BARRON FORD CREEK	1+00		24SE/79	S-010 WATER	.	.	.	.	.	.	.	.
FLINT RIVER	20+00		18UC/79	S-114 WATER	.	.	.	.	.	.	.	.
FLINT RIVER	22+00		25OC/79	S-157 WATER	.	.	.	.	.	.	.	.
FLINT RIVER	22+00		45JC/79	S-170 WATER	0.051	0.020	0.041	0.041	0.041	0.020	0.214	0.214
M-VILLE SPRING BR	0+00		25SEP/79	S-019 WATER	.	.	.	.	.	.	.	.
M-VILLE SPRING BR	2+00		19DEC/79	S-001 WATER	.	.	.	.	.	.	.	.
M-VILLE SPRING BR	5+37		25SEP/79	S-020 WATER	.	.	.	.	.	.	.	.
M-VILLE SPRING BR	5+90		25SEP/79	S-021 WATER	.	.	.	.	.	.	.	.
M-VILLE SPRING BR	5+90		16DEC/79	S-003 WATER	.	.	.	.	.	.	.	.
INDIAN CREEK	0+00		55EP/79	S-002 WATER	.	.	.	.	.	.	.	.
INDIAN CREEK	0+00		24SE/79	S-015 WATER	.	.	.	.	.	.	.	.
INDIAN CREEK	0+00		16DEC/79	S-004 WATER	.	.	.	.	.	.	.	.
INDIAN CREEK	4+00		55EP/79	S-001 WATER	.	.	.	.	.	.	.	.
INDIAN CREEK	4+00		45SEP/79	S-022 WATER	.	.	.	.	.	.	.	.
INDIAN CREEK	4+00		15DEC/79	S-002 WATER	.	.	.	.	.	.	.	.
LIMESTONE CREEK	18+00		22OC/79	S-156 WATER	.	.	.	.	.	.	.	.
LIMESTONE CREEK	18+00		22OC/79	S-164 WATER	0.110	0.490	0.020	0.067	0.030	0.044	0.761	0.761
TENNESSEE RIVER	289+90	Lt. BANK	28SEP/79	S-032 WATER	.	.	.	.	.	.	.	.
TENNESSEE RIVER	289+90	MIDDLE	28SEP/79	S-033 WATER	.	.	.	.	.	.	.	.
TENNESSEE RIVER	289+90	Rt. BANK	28SEP/79	S-034 WATER	.	.	.	.	.	.	.	.
TENNESSEE RIVER	315+00	Lt. BANK	27SEP/79	S-023 WATER	.	.	.	.	.	.	.	.
TENNESSEE RIVER	315+00	MIDDLE	27SEP/79	S-024 WATER	.	.	.	.	.	.	.	.
TENNESSEE RIVER	315+00	MIDDLE	27SEP/79	S-025 WATER	.	.	.	.	.	.	.	.
TENNESSEE RIVER	345+20	Lt. BANK	7/5E/79	S-026 WATER	.	.	.	.	.	.	.	.
TENNESSEE RIVER	345+20	Rt. BANK	7/5E/79	S-027 WATER	.	.	.	.	.	.	.	.
TENNESSEE RIVER	345+20	MIDDLE	7/5E/79	S-028 WATER	.	.	.	.	.	.	.	.
TENNESSEE RIVER	350+00	Rt. BANK	7/5E/79	S-029 WATER	.	.	.	.	.	.	.	.
TENNESSEE RIVER	350+00	MIDDLE	7/5E/79	S-030 WATER	.	.	.	.	.	.	.	.
TENNESSEE RIVER	350+00	Lt. BANK	7/5E/79	S-031 WATER	.	.	.	.	.	.	.	.
TENNESSEE RIVER	350+00	Lt. BANK	7/5E/79	S-031 WATER	.	.	.	.	.	.	.	.

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
 HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
 WHEELER RESERVOIR, ALABAMA

TASKS - AQUATIC BIOTRANSFORM (EXCLUDING VERTEBRATES)

STREAM	MILE	HORIZONTAL LOCATION	DATE	LABIO TYPE-SPECIES	TOTAL CONCENTRATIONS OF DDT				TOTAL DDT	
					DDT-O, P (UG/L)	DDT-P, P (UG/L)	DDT-O, P (UG/L)	DDT-P, P (UG/L)	MIN	MAX

FOOTNOTES:

- MINIMUM TOTAL DDT CALCULATED BY SETTING ALL LESS THAN VALUES TO ZERO.
- MAXIMUM TOTAL DDT CALCULATED BY SETTING ALL LESS THAN VALUES TO THEIR ABSOLUTE VALUE.

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
MUNTSVILLE SPRING PLANT, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TAS-5 - ANNUAL FIDUCIARY REPORT (EXCLUDING VERIFICATION)

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ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASKS - AQUATIC BIOTRANSFORM (EXCLUDING VERTEBRATES)

STREAM	MILE	HORIZONTAL LOCATION	DATE	LABID	SAMPLE TYPE-SPECIES	DISSOLVED CONCENTRATIONS OF DDT										TOTAL DDT	
						DDT-O,P (UG/L)	DDT-P,P (UG/L)	DDD-O,P (UG/L)	DDD-P,P (UG/L)	DOE-O,P (UG/L)	DOE-P,P (UG/L)	MIN (UG/L)	MAX (UG/L)				
BARREN FORK CREEK	1.20		24SEP79	5-G10	WATER	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.000	0.000	0.000	0.400	0.400
ELK RIVER	20.70		18OCT79	5-114	WATER	< 0.050	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.000	0.000	0.000	0.400	0.400
FLINT RIVER	22.70		25OCT79	5-157	WATER	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.000	0.000	0.000	0.400	0.400
FLINT RIVER	22.70		25OCT79	5-170	WATER	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.000	0.000	0.000	0.400	0.400
M-VILLE SPRING BR	0.00		25SEP79	5-019	WATER	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.000	0.000	0.000	0.400	0.400
M-VILLE SPRING BR	2.40		19DEC79	5M-01	WATER	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.000	0.000	0.000	0.400	0.400
M-VILLE SPRING BR	5.37		25SEP79	5-020	WATER	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.000	0.000	0.000	0.400	0.400
M-VILLE SPRING BR	5.90		25SEP79	5-021	WATER	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.000	0.000	0.000	0.400	0.400
M-VILLE SPRING BR	5.90		16DEC79	5M-03	WATER	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.000	0.000	0.000	0.400	0.400
INDIAN CREEK	0.00		25SEP79	5-002	WATER	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.000	0.000	0.000	0.400	0.400
INDIAN CREEK	0.00		24SEP79	5-015	WATER	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.000	0.000	0.000	0.400	0.400
INDIAN CREEK	0.80		16DEC79	5M-04	WATER	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.000	0.000	0.000	0.400	0.400
INDIAN CREEK	4.00		25SEP79	5-001	WATER	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.000	0.000	0.000	0.400	0.400
INDIAN CREEK	4.00		25SEP79	5-022	WATER	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.000	0.000	0.000	0.400	0.400
INDIAN CREEK	4.60		15DEC79	5M-02	WATER	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.000	0.000	0.000	0.400	0.400
LIMESTONE CREEK	18.00		22OCT79	5-156	WATER	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.000	0.000	0.000	0.400	0.400
LIMESTONE CREEK	18.00		22OCT79	5-104	WATER	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.000	0.000	0.000	0.400	0.400
TEMPEL RIVER	289.90	LT. BANK	20SEP79	5-032	WATER	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.000	0.000	0.000	0.400	0.400
TEMPEL RIVER	289.90	MIDDLE	28SEP79	5-033	WATER	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.000	0.000	0.000	0.400	0.400
TEMPEL RIVER	289.90	LT. BANK	28SEP79	5-034	WATER	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.000	0.000	0.000	0.400	0.400
TEMPEL RIVER	315.00	LT. BANK	27SEP79	5-023	WATER	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.000	0.000	0.000	0.400	0.400
TEMPEL RIVER	315.00	MIDDLE	27SEP79	5-024	WATER	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.000	0.000	0.000	0.400	0.400
TEMPEL RIVER	315.00	LT. BANK	27SEP79	5-025	WATER	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.000	0.000	0.000	0.400	0.400
TEMPEL RIVER	345.40	LT. BANK	27SEP79	5-026	WATER	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.000	0.000	0.000	0.400	0.400
TEMPEL RIVER	345.40	LT. BANK	27SEP79	5-027	WATER	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.000	0.000	0.000	0.400	0.400
TEMPEL RIVER	345.40	LT. BANK	27SEP79	5-028	WATER	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.000	0.000	0.000	0.400	0.400
TEMPEL RIVER	345.40	MIDDLE	27SEP79	5-029	WATER	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.000	0.000	0.000	0.400	0.400
TEMPEL RIVER	350.00	LT. BANK	27SEP79	5-030	WATER	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.000	0.000	0.000	0.400	0.400
TEMPEL RIVER	350.00	MIDDLE	27SEP79	5-031	WATER	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.000	0.000	0.000	0.400	0.400
TEMPEL RIVER	350.00	LT. BANK	27SEP79	5-031	WATER	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040	0.000	0.000	0.000	0.000	0.400	0.400

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
 HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
 WHEELER RESERVOIR, ALABAMA

TASKS - AQUATIC BIOTRANSFORM (EXCLUDING VERTEBRATES)

STREAM	MILE	LOCATION	DATE	LARI	TYPE-SPECIES	DISSOLVED CONCENTRATIONS OF DDT				TOTAL DDT	
						DDT-C,P	DDT-P,P	DDT-C,P	DDT-P,P	MIN	MAX
						(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)

FOOTNOTES:

- A. MINIMUM TOTAL DDT CALCULATED BY SETTING ALL LESS THAN VALUES TO ZERO.
- B. MAXIMUM TOTAL DDT CALCULATED BY SETTING ALL LESS THAN VALUES TO THEIR ABSOLUTE VALUE.

ENGINEERING AND ENVIRONMENTAL STUDY OF DRY CONTAMINATION
MOUNTVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASKS - AQUATIC BIOTRANSFERT (EXCLUDING VERTEBRATES)

STREAM	MILE	HORIZONTAL LOCATION	DATE	LAB	LABIO	SAMPLE TYPE-SPECIES	NITROGEN		TOTAL PHOSPHORUS	ORGANIC CARBON		SOLIDS	CA MG
							NO3	NO2+NO3		TOC	SOC		
BARKEN FORK CREEK	1.20		24SEP79	STEWART	5-010A	PHYTOPLANKTON	.	.	.	3.4	2.8	20	.
BARKEN FORK CREEK	1.20		24SEP79	STEWART	5-010B	PHYTOPLANKTON	.	.	.	3.5	2.9	19	.
BARKEN FORK CREEK	1.20		24SEP79	STEWART	5-010C	PHYTOPLANKTON	.	.	.	3.5	2.9	21	.
M-VILLE SPRING BR	0.00		24SEP79	STEWART	5-019A	PHYTOPLANKTON	.	.	.	4.7	3.3	20	.
M-VILLE SPRING BR	0.00		24SEP79	STEWART	5-019B	PHYTOPLANKTON	.	.	.	4.4	3.8	24	.
M-VILLE SPRING BR	0.00		24SEP79	STEWART	5-019C	PHYTOPLANKTON	.	.	.	4.3	3.4	27	.
M-VILLE SPRING BR	1.30		24SEP79	STEWART	5-017A	PHYTOPLANKTON	.	.	.	4.9	3.8	20	.
M-VILLE SPRING BR	1.30		24SEP79	STEWART	5-017B	PHYTOPLANKTON	.	.	.	4.7	3.7	21	.
M-VILLE SPRING BR	1.30		24SEP79	STEWART	5-017C	PHYTOPLANKTON	.	.	.	5.0	3.9	13	.
M-VILLE SPRING BR	2.40		24SEP79	STEWART	5-018A	PHYTOPLANKTON	.	.	.	4.8	3.6	20	.
M-VILLE SPRING BR	2.40		24SEP79	STEWART	5-018B	PHYTOPLANKTON	.	.	.	4.7	3.7	21	.
M-VILLE SPRING BR	2.40		24SEP79	STEWART	5-018C	PHYTOPLANKTON	.	.	.	4.5	3.6	23	.
M-VILLE SPRING BR	5.37		24SEP79	STEWART	5-020A	PHYTOPLANKTON	.	.	.	4.4	3.6	10	.
M-VILLE SPRING BR	5.37		24SEP79	STEWART	5-020B	PHYTOPLANKTON	.	.	.	4.3	3.4	7	.
M-VILLE SPRING BR	5.37		24SEP79	STEWART	5-020C	PHYTOPLANKTON	.	.	.	4.2	3.4	9	.
M-VILLE SPRING BR	5.90		24SEP79	STEWART	5-021A	PHYTOPLANKTON	.	.	.	4.4	3.6	5	.
M-VILLE SPRING BR	5.90		24SEP79	STEWART	5-021B	PHYTOPLANKTON	.	.	.	4.4	3.6	4	.
M-VILLE SPRING BR	5.90		24SEP79	STEWART	5-021C	PHYTOPLANKTON	.	.	.	4.6	3.4	24	.
INDIAN CREEK	0.00		24SEP79	STEWART	5-002A	PHYTOPLANKTON	.	.	.	4.4	3.9	22	.
INDIAN CREEK	0.00		24SEP79	STEWART	5-002B	PHYTOPLANKTON	.	.	.	4.3	3.4	23	.
INDIAN CREEK	0.00		24SEP79	STEWART	5-015A	PHYTOPLANKTON	.	.	.	2.5	1.8	8	.
INDIAN CREEK	0.00		24SEP79	STEWART	5-015B	PHYTOPLANKTON	.	.	.	2.4	2.0	8	.
INDIAN CREEK	0.00		24SEP79	STEWART	5-015C	PHYTOPLANKTON	.	.	.	2.5	2.1	9	.
INDIAN CREEK	4.00		24SEP79	STEWART	5-001A	PHYTOPLANKTON	.	.	.	5.0	4.4	33	.
INDIAN CREEK	4.00		24SEP79	STEWART	5-001B	PHYTOPLANKTON	.	.	.	4.8	3.5	33	.
INDIAN CREEK	4.00		24SEP79	STEWART	5-001C	PHYTOPLANKTON	.	.	.	4.3	3.4	33	.
INDIAN CREEK	4.00		24SEP79	STEWART	5-022A	PHYTOPLANKTON	.	.	.	5.0	3.5	19	.
INDIAN CREEK	4.00		24SEP79	STEWART	5-022B	PHYTOPLANKTON	.	.	.	4.3	3.4	24	.
INDIAN CREEK	4.00		24SEP79	STEWART	5-022C	PHYTOPLANKTON	.	.	.	2.9	2.2	16	.
INDIAN CREEK	4.00		24SEP79	STEWART	5-032A	PHYTOPLANKTON	.	.	.	2.9	2.2	15	.
INDIAN CREEK	4.00		24SEP79	STEWART	5-032B	PHYTOPLANKTON	.	.	.	3.0	2.2	17	.
INDIAN CREEK	4.00		24SEP79	STEWART	5-032C	PHYTOPLANKTON	.	.	.	2.6	2.0	14	.
INDIAN CREEK	4.00		24SEP79	STEWART	5-033A	PHYTOPLANKTON	.	.	.	2.6	2.1	14	.
INDIAN CREEK	4.00		24SEP79	STEWART	5-033B	PHYTOPLANKTON	.	.	.	2.7	2.0	15	.
INDIAN CREEK	4.00		24SEP79	STEWART	5-033C	PHYTOPLANKTON	.	.	.	2.5	1.8	10	.
INDIAN CREEK	4.00		24SEP79	STEWART	5-034A	PHYTOPLANKTON	.	.	.	2.3	1.6	12	.
INDIAN CREEK	4.00		24SEP79	STEWART	5-034B	PHYTOPLANKTON	.	.	.	2.5	1.8	13	.
INDIAN CREEK	4.00		24SEP79	STEWART	5-034C	PHYTOPLANKTON	.	.	.	2.6	1.9	12	.
INDIAN CREEK	4.00		24SEP79	STEWART	5-023A	PHYTOPLANKTON	.	.	.	2.6	2.1	12	.
INDIAN CREEK	4.00		24SEP79	STEWART	5-023B	PHYTOPLANKTON	.	.	.	2.5	2.0	9	.
INDIAN CREEK	4.00		24SEP79	STEWART	5-023C	PHYTOPLANKTON	.	.	.	2.5	2.1	8	.
INDIAN CREEK	4.00		24SEP79	STEWART	5-024A	PHYTOPLANKTON	.	.	.	2.5	2.1	9	.
INDIAN CREEK	4.00		24SEP79	STEWART	5-024B	PHYTOPLANKTON	.	.	.	2.7	2.3	9	.
INDIAN CREEK	4.00		24SEP79	STEWART	5-024C	PHYTOPLANKTON	.	.	.	2.9	2.4	9	.
INDIAN CREEK	4.00		24SEP79	STEWART	5-025A	PHYTOPLANKTON	.	.	.	2.4	1.8	9	.
INDIAN CREEK	4.00		24SEP79	STEWART	5-025B	PHYTOPLANKTON	.	.	.	2.4	1.8	9	.
INDIAN CREEK	4.00		24SEP79	STEWART	5-025C	PHYTOPLANKTON	.	.	.	2.4	1.8	9	.

ENGINEERING AND ENVIRONMENTAL STUDY OF OIL CONTAMINATION
MONTVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASKS - AQUATIC TRANSPORT (EXCLUDING VERTEBRATES)

STREAM	MILE	WATERWAY LOCATION	DATE	LAB	LABIO	TYPE-SPECIES	---NITROGEN---		ORGANIC CARBON	SOLIDS	CA MG
							TOTAL KJELDAHL	TOTAL NO ₂ +NO ₃			
INDIAN CREEK	1.20	24SEP79	STEWART	5-016	WATER		0.41	0.18	0.07		28
INDIAN CREEK	1.20	18OCT79	STEWART	5-016	WATER					130	33
INDIAN CREEK	2.70	18OCT79	STEWART	5-114	WATER					100	5
INDIAN CREEK	2.70	25OCT79	STEWART	5-157	WATER						
INDIAN CREEK	2.70	25OCT79	STEWART	5-170	WATER						
INDIAN CREEK	2.70	25SEP79	STEWART	5-019	WATER		1.60	0.73	0.81		45
INDIAN CREEK	2.70	15OCT79	STEWART	5-01	WATER						
INDIAN CREEK	2.70	25SEP79	STEWART	5-020	WATER		4.40	1.10	2.60		48
INDIAN CREEK	2.70	25SEP79	STEWART	5-021	WATER		4.00	1.10	3.00		48
INDIAN CREEK	2.70	16DEC79	STEWART	5-03	WATER						
INDIAN CREEK	2.70	25SEP79	STEWART	5-002	WATER		0.27	0.45	0.23		15
INDIAN CREEK	2.70	24SEP79	STEWART	5-015	WATER		0.24	0.32	0.04		22
INDIAN CREEK	2.70	16OCT79	STEWART	5-001	WATER		0.37	0.50	0.39		34
INDIAN CREEK	2.70	25SEP79	STEWART	5-024	WATER						
INDIAN CREEK	2.70	15OCT79	STEWART	5-024	WATER						
INDIAN CREEK	2.70	22OCT79	STEWART	5-156	WATER					70	1
INDIAN CREEK	2.70	25SEP79	STEWART	5-164	WATER						
INDIAN CREEK	2.70	25SEP79	STEWART	5-032	WATER		0.20	0.33	0.05		21
INDIAN CREEK	2.70	25SEP79	STEWART	5-033	WATER		0.14	0.33	0.04		18
INDIAN CREEK	2.70	25SEP79	STEWART	5-034	WATER		0.20	0.37	0.04		20
INDIAN CREEK	2.70	25SEP79	STEWART	5-023	WATER		0.18	0.34	0.04		22
INDIAN CREEK	2.70	25SEP79	STEWART	5-024	WATER		0.35	0.36	0.05		22
INDIAN CREEK	2.70	25SEP79	STEWART	5-025	WATER		0.18	0.36	0.04		22
INDIAN CREEK	2.70	25SEP79	STEWART	5-026	WATER		0.16	0.31	0.03		20
INDIAN CREEK	2.70	25SEP79	STEWART	5-027	WATER		0.18	0.31	0.04		20
INDIAN CREEK	2.70	25SEP79	STEWART	5-028	WATER		0.20	0.31	0.04		20
INDIAN CREEK	2.70	25SEP79	STEWART	5-029	WATER		0.17	0.31	0.04		18
INDIAN CREEK	2.70	25SEP79	STEWART	5-030	WATER		0.18	0.30	0.03		18
INDIAN CREEK	2.70	25SEP79	STEWART	5-031	WATER		0.16	0.29	0.03		16

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

13

TASKS - AQUATIC BIOTRANSSPORT (EXCLUDING VERTEBRATES)

STREAM	MILE	HORIZONTAL LOCATION	DATE	LAP	LAP ID	SAMPLE TYPE-SPECIES	---NITROGEN---		ORGANIC		SOLIDS	
							TOTAL	TOTAL	CARBON	TOC	DIS	CA
							KJELDAHL	NO2+NO3	PHOSPHORUS	SCC	DIS	CA
							(MG/L)					

FOOTNOTES:

TOTAL VOLATILE SUSPENDED SOLIDS FOR SAMPLES SM-01, SM-03, AND SM-04
WERE RESPECTIVELY 9, 5, AND 7 MG/L.

Table 5-4A

OCCURRENCE AND ABUNDANCE OF PHYTOPLANKTON TAXA IN
SAMPLES COLLECTED AFTER A LARGE RAINFALL EVENT-
SEPTEMBER 5, 1979
(AVERAGE NUMBER/LITER)

Taxa	Indian Creek Mile	
	4.0	0.0
<u>Chrysophyta</u>		
<u>Achnanthes</u> sp.	4,673	- ^a
<u>Characiopsis</u> sp.	132,388	71,645
<u>Cyclotella</u> sp.	-	3,115
<u>Cymbella</u> sp.	3,115	4,673
<u>Dinobryon</u> sp.	6,230	-
<u>Gomphonema</u> sp.	1,558	-
<u>Melosira</u> sp.	1,820,718	1,227,310
<u>Navicula</u> sp.	9,345	4,673
<u>Nitzschia</u> sp.	-	1,558
<u>Ophiocytium</u> sp.	1,558	1,558
<u>Stephanodiscus</u> sp.	18,690	14,018
<u>Synedra</u> sp.	144,848	115,255
<u>Chlorophyta</u>		
<u>Actinastrum</u> sp.	38,938	12,460
<u>Ankistrodesmus</u> sp.	51,398	68,530
<u>Botryococcus</u> sp.	9,345	90,335
<u>Bracteacoccus</u> sp.	4,673	10,903
<u>Chlamydomonas</u> sp.	473,480	531,108
<u>Chlorella</u> sp.	7,788	14,018
<u>Chlorogonium</u> sp.	-	21,805
<u>Chodatella</u> sp.	63,858	24,920
<u>Closteriopsis</u> sp.	34,265	14,018
<u>Crucigenia</u> sp.	126,158	129,273
<u>Dictyosphaerium</u> sp.	31,150	6,230
<u>Elakatothrix</u> sp.	12,460	3,115
<u>Eudorina</u> sp.	-	4,673
<u>Gloeactinium</u> sp.	9,345	12,460
<u>Golenkinia</u> sp.	4,673	7,788
<u>Gonium</u> sp.	-	12,460
<u>Kirchneriella</u> sp.	126,158	133,945
<u>Micractinium</u> sp.	45,168	28,035
<u>Oocystis</u> sp.	37,380	23,363
<u>Pandorina</u> sp.	-	24,920
<u>Pediastrum</u> sp.	6,230	52,955
<u>Planktosphaeria</u> sp.	45,168	62,300
<u>Polyedriopsis</u> sp.	-	1,558
<u>Protococcus</u> sp.	46,725	269,448
<u>Pteromonas</u> sp.	1,558	3,115
<u>Pyramimonas</u> sp.	-	3,115

Table 5-4A

OCCURRENCE AND ABUNDANCE OF PHYTOPLANKTON TAXA IN
SAMPLES COLLECTED AFTER A LARGE RAINFALL EVENT-

SEPTEMBER 5, 1979
 (AVERAGE NUMBER/LITER)
 (continued)

Taxa	Indian Creek Mile	
	4.0	0.0
<u>Chlorophyta (cont)</u>		
<u>Quadrigula</u> sp.	-	6,230
<u>Scenedesmus</u> sp.	685,300	764,733
<u>Schroederia</u> sp.	14,018	7,788
<u>Selenastrum</u> sp.	59,185	77,875
<u>Tetraedron</u> sp.	48,283	43,610
<u>Tetrastrum</u> sp.	12,460	6,230
<u>Treubaria</u> sp.	-	3,115
Unidentified (<u>Treubaria</u> ?)	1,558	1,558
<u>Cryptophyta</u>		
<u>Cryptomonas</u> sp.	32,708	68,530
<u>Cyanophyta</u>		
<u>Anabaena</u> sp.	-	28,035
<u>Anacystis</u> sp.	286,580	274,120
<u>Chroococcus</u> sp.	40,495	99,680
<u>Dactylococcopsis</u> sp.	138,618	93,450
<u>Eucapsis</u> sp.	-	12,460
<u>Gloeotheca</u> sp.	-	20,248
<u>Lyngbya</u> sp.	-	3,115
<u>Merismopedia</u> sp.	11,561,323	10,690,680
<u>Oscillatoria</u> sp.	546,683	135,503
<u>Spirulina</u> sp.	17,133	20,248
<u>Euglenophyta</u>		
<u>Euglena</u> sp.	74,760	404,950
<u>Phacus</u> sp.	3,115	3,115
<u>Trachelomonas</u> sp.	6,230	6,230

a. Taxa not found.

Table 5-4B

PHYTOPLANKTON COMPOSITION
REPLICATE ANALYSIS RESULTS AND
CALCULATED MEANS -
RAINFALL EVENT SAMPLING

9153 WEDNESDAY, FEBRUARY 27, 1980

DOT TASK 5 PHYTOPLANKTON LISTING

RIVER-INDIAN CREEK RIV_MILE=000.0 SAM_LOC=AJ DATE=79-09-05

TAXON	GROUP	MEAN
ACTINASTRUM	CHLOROPHYTA	12460
ANKISTRODESMUS	CHLOROPHYTA	68530
BOTRYOCOCCUS	CHLOROPHYTA	90335
BRACTEACOCOCCUS	CHLOROPHYTA	10902
CHLAMYDOMONAS	CHLOROPHYTA	531107
CHLORELLA	CHLOROPHYTA	14017
CHLOROCONIUM	CHLOROPHYTA	21805
CHODATELLA	CHLOROPHYTA	24920
CLOSTERIDIOPSIS	CHLOROPHYTA	14017
CRUCIGENIA	CHLOROPHYTA	129272
DICTYOSPHAERIUM	CHLOROPHYTA	6230
ELAKATOTHRIX	CHLOROPHYTA	3115
EUDORINA	CHLOROPHYTA	4672
GLOEDACTINIUM	CHLOROPHYTA	12460
GOLENKINIA	CHLOROPHYTA	7787
GONIUM	CHLOROPHYTA	12460
KIRCHNERIELLA	CHLOROPHYTA	133945
MICRACTINIUM	CHLOROPHYTA	28035
OOCYSTIS	CHLOROPHYTA	23362
PANDORINA	CHLOROPHYTA	24920
PEDIASTRUM	CHLOROPHYTA	52955
PLANKTOSPHAERIA	CHLOROPHYTA	62300
POLYEDRIOPSIS	CHLOROPHYTA	1557
PROTOCOCCUS	CHLOROPHYTA	269447
PTEROMUNAS	CHLOROPHYTA	3115
PYRAMIDONAS	CHLOROPHYTA	3115
QUADRIGULA	CHLOROPHYTA	6230
SCENEDESMUS	CHLOROPHYTA	764732
SCHROEDERIA	CHLOROPHYTA	7787
SELENASTRUM	CHLOROPHYTA	77875
TETRAEDRON	CHLOROPHYTA	43610
TETRASTRUM	CHLOROPHYTA	6230
TREURARIA	CHLOROPHYTA	3115
UNID GREEN #1	CHLOROPHYTA	1557
CHARACIOPSIS	CHLOROPHYTA	71645
CYCLOTELLA	CHLOROPHYTA	3115
CYMBELLA	CHLOROPHYTA	4672
MELOSIRA	CHLOROPHYTA	1227310
NAVICULA	CHLOROPHYTA	4672
NITZSCHIA	CHLOROPHYTA	1557
OPHIOCYTIUM	CHLOROPHYTA	1557
STEPHANODISCUS	CHLOROPHYTA	14017
SYNEDRA	CHLOROPHYTA	115255
CRYPTODONAS	CHLOROPHYTA	68530
ANABAENA	CHLOROPHYTA	28035
ANACYSTIS	CYANOPHYTA	274120
CHROOCOCCUS	CYANOPHYTA	99680
DACTYLOCOCCOPSIS	CYANOPHYTA	93450
EUCAPSIS	CYANOPHYTA	12460
GLOEOTHECE	CYANOPHYTA	20247
LYNGBYA	CYANOPHYTA	3115
MERISMOPEDIA	CYANOPHYTA	10690680

9133 WEDNESDAY, FEBRUARY 27, 1980

DOT TASK 3 PHYTOPLANKTON LISTING

----- RIVER=INDIAN CREEK RIV_MILE=000.0 SAM_LOC=AJ DATE=79-09-05 -----

TAXON	GROUP	MEAN
OSCILLATORIA	CYANOPHYTA	13502
SPIRULINA	CYANOPHYTA	20287
EUGLENA	EUGLENOPHYTA	404920
PHACUS	EUGLENOPHYTA	3115
TRACHELOMONAS	EUGLENOPHYTA	6230

DOT TASK 5 PHYTOPLANKTON LISTING

RIVER INDIAN CREEK RIV_MILE=000.0 SAM_LUC=AJ DATE=79-09-05 REP_NUM=1

TAXON	GROUP	NUM
ACTINASTRUM	CHLOROPHYTA	24920
ANKISTRODESNIUS	CHLOROPHYTA	56070
BOTRYOCOCCUS	CHLOROPHYTA	180670
BRACTEACOCCLUS	CHLOROPHYTA	9345
CHLAMYDOMONAS	CHLOROPHYTA	314615
CHLURELLA	CHLOROPHYTA	9345
CHLOROGONIUM	CHLOROPHYTA	40495
CHODATELLA	CHLOROPHYTA	12460
CRUCIGENIA	CHLOROPHYTA	183785
GLOEOACTINIUM	CHLOROPHYTA	12460
GOLEMKNIA	CHLOROPHYTA	6230
KIRCHNERIELLA	CHLOROPHYTA	68530
MICRACITINIUM	CHLOROPHYTA	56070
OCCYSTIS	CHLOROPHYTA	18690
PANDORINA	CHLOROPHYTA	49840
PEDIASTRUM	CHLOROPHYTA	49840
PLANCTOSPHERIA	CHLOROPHYTA	112140
POLYEDRICOPSIS	CHLOROPHYTA	3115
PYRAMIDNAS	CHLOROPHYTA	6230
QUADRIGULA	CHLOROPHYTA	12460
SCENIODESNUS	CHLOROPHYTA	716450
SCHROEDERIA	CHLOROPHYTA	12460
SELENASTRUM	CHLOROPHYTA	87220
TETRAEDRON	CHLOROPHYTA	24920
TREUBARIA	CHLOROPHYTA	6230
CHARACTIOPSIS	CHRYSOPTHYTA	18690
CYCLOTELLA	CHRYSOPTHYTA	6230
CYMBELLA	CHRYSOPTHYTA	6230
MELDORA	CHRYSOPTHYTA	1186815
NAVICULA	CHRYSOPTHYTA	9345
MITZSCHIA	CHRYSOPTHYTA	3115
OPHIOCYTIUM	CHRYSOPTHYTA	3115
STEPHANODISCUS	CHRYSOPTHYTA	15575
SYNEDRA	CHRYSOPTHYTA	137060
CRYPTOMONAS	CRYPTOPHYTA	12460
ANACYSTIS	CYANOPHYTA	432985
CHROCOCCUS	CYANOPHYTA	124600
DACTYLOCOCCOPSIS	CYANOPHYTA	87220
MERISOMEDIA	CYANOPHYTA	10133095
OSCILLATGRIA	CYANOPHYTA	112140
SPIRULINA	CYANOPHYTA	18690
EUGLENA	EUGLENOPTHYTA	373800
PHACUS	EUGLENOPTHYTA	3115

DOT TASK 5 PHYTOPLANKTON LISTING

----- RIVER=INDIAN CREEK RIV_MILE=000.0 SAM_LCC=AJ DATE=79-09-05 REP_NUM=2 -----

TAXON	GROUP	NUM
ANKISTRODESMIUS	CHLOROPHYTA	80990
BRACEACOCCLUS	CHLOROPHYTA	12460
CHLAMYDOMONAS	CHLOROPHYTA	747600
CHLORELLA	CHLOROPHYTA	18690
CHLOROCYTIUM	CHLOROPHYTA	3115
CHODATELLA	CHLOROPHYTA	37380
CLOSTERIOPSIS	CHLOROPHYTA	28035
CRUCIGENTIA	CHLOROPHYTA	74760
DICYOSPHAERIUM	CHLOROPHYTA	12460
ELASTOTRIK	CHLOROPHYTA	6230
EUGLENA	CHLOROPHYTA	9345
GLOEODACTINIUM	CHLOROPHYTA	12460
GOLENKHIA	CHLOROPHYTA	9345
GONIM	CHLOROPHYTA	24920
KIRCHNERIELLA	CHLOROPHYTA	199350
UCYSTIS	CHLOROPHYTA	28035
PEDIASTRUM	CHLOROPHYTA	56070
PLANKTOSPHAERIA	CHLOROPHYTA	12460
PROYOCOCCLUS	CHLOROPHYTA	538895
PTEROMONAS	CHLOROPHYTA	6230
SCENEDESMIUS	CHLOROPHYTA	813015
SCHUEDERIA	CHLOROPHYTA	3115
SELENASTRUM	CHLOROPHYTA	68330
TETRAEDRON	CHLOROPHYTA	62300
TETRASTRUM	CHLOROPHYTA	12460
UNID GREEN #1	CHLOROPHYTA	3115
CHARACIOPSIS	CHRYSOPHYTA	124600
CYMBELLA	CHRYSOPHYTA	3115
HELOSIRA	CHRYSOPHYTA	1267805
STEPHANODISCUS	CHRYSOPHYTA	12460
SYNEDRA	CHRYSOPHYTA	93450
CRYPTOMONAS	CRYPTOPHYTA	124600
ANABAEANA	CYANOPHYTA	56070
ANACYSTIS	CYANOPHYTA	115255
CHROCOCCUS	CYANOPHYTA	74760
DACTYLOCOCCOPSIS	CYANOPHYTA	99680
EUCAPSI	CYANOPHYTA	24920
GLOEOTHECE	CYANOPHYTA	40495
LYNGBYA	CYANOPHYTA	6230
HERISMOREDIA	CYANOPHYTA	11248265
OSCILLATORIA	CYANOPHYTA	158865
SPIRULINA	CYANOPHYTA	21805
EUGLENA	EUGLENOPHYTA	436100
PHACUS	EUGLENOPHYTA	3115
TRACHELOMONAS	EUGLENOPHYTA	12460

DOT TASK 3 PHYTOPLANKTON LISTING 9153 WEDNESDAY, FEBRUARY 27, 1980 3

RIVER INDIAN CREEK RIV_MILE=004.0 SAM_LOC=AJ DATE=79-09-05 -----

TAXON	GROUP	MEAN
ACTINASTRUM	CHLOROPHYTA	38937
ANKISTRODESCHUS	CHLOROPHYTA	91397
BOTRYOCOCCUS	CHLOROPHYTA	9345
BRACTEACOCOCCUS	CHLOROPHYTA	4672
CHLAMYDOMONAS	CHLOROPHYTA	473480
CHLORELLA	CHLOROPHYTA	7787
CHODATELLA	CHLOROPHYTA	63857
CLOSTERIOPSIS	CHLOROPHYTA	34265
CRUCIGENIA	CHLOROPHYTA	126157
DICTYOSPHAERIUM	CHLOROPHYTA	31150
ELAAOTHRIX	CHLOROPHYTA	12460
GLDEDACTINIUM	CHLOROPHYTA	9345
GOLENKINIA	CHLOROPHYTA	4672
KIRCHNERIELLA	CHLOROPHYTA	126157
MICRACTINIUM	CHLOROPHYTA	45167
OOCYSTIS	CHLOROPHYTA	37380
PEDIASTRUM	CHLOROPHYTA	6230
PLANKTOSPHAERIA	CHLOROPHYTA	45167
PROTOCOCCUS	CHLOROPHYTA	46725
PTEROMONAS	CHLOROPHYTA	1557
SCENEDESCHUS	CHLOROPHYTA	685300
SCHROEDERIA	CHLOROPHYTA	14017
SELENASTRUM	CHLOROPHYTA	59185
TETRAEDRON	CHLOROPHYTA	48282
TETRASTRUM	CHLOROPHYTA	12460
TREUBARIA	CHLOROPHYTA	1557
ACHANTHES	CHLOROPHYTA	4672
CHARACIOPSIS	CHLOROPHYTA	132387
CYMBELLA	CHLOROPHYTA	3115
DINOBRYON	CHLOROPHYTA	6230
GOMPHOREHA	CHLOROPHYTA	1557
MELOSIRA	CHLOROPHYTA	1820717
NAVICULA	CHLOROPHYTA	9345
OPHIOTYTIUM	CHLOROPHYTA	1557
STEPHANODISCUS	CHLOROPHYTA	18690
SYNEDRA	CHLOROPHYTA	144847
CRYPTOMONAS	CRYPTOPHYTA	32707
ANACYSTIS	CYANOPHYTA	286580
CHROOCOCCUS	CYANOPHYTA	40495
DACTYLOCOCCOPOPSIS	CYANOPHYTA	138617
HERISMUPEIDIA	CYANOPHYTA	11561322
DSCILLATORIA	CYANOPHYTA	546682
SPIRULINA	CYANOPHYTA	17132
EUGLENA	EUGLENOPHYTA	74760
PHACUS	EUGLENOPHYTA	3115
TRACHELOMONAS	EUGLENOPHYTA	6230

DDT TASK 5 PHYTOPLANKTON LISTING

RIVER=INDIAN CREEK

RIV_MILE=004.0

SAM_LOC=AJ

DATE=79-09-05

REP_NUM=1

TAXON	GROUP	NUM
ACTINASTRUM	CHLOROPHYTA	28035
ANKISTRODESMUS	CHLOROPHYTA	52955
BRACTEACOCCLUS	CHLOROPHYTA	6230
CHLAHYDOMONAS	CHLOROPHYTA	423640
CHLORELLA	CHLOROPHYTA	6230
CHODATELLA	CHLOROPHYTA	59185
CLOSTERIDOPSIS	CHLOROPHYTA	34265
CRUCIGENTIA	CHLOROPHYTA	99680
DICTYOSPHAERIUM	CHLOROPHYTA	12460
ELAKATOTHAIX	CHLOROPHYTA	18690
GOLEKINIA	CHLOROPHYTA	6230
KIRCHNERIELLA	CHLOROPHYTA	118370
MICRACTINIUM	CHLOROPHYTA	62300
OOCYSTIS	CHLOROPHYTA	37380
PLANKTOSPHAERIA	CHLOROPHYTA	65415
PLOTOCOCCLUS	CHLOROPHYTA	68530
PTEROMONAS	CHLOROPHYTA	3115
SCENEDESMUS	CHLOROPHYTA	710220
SCHROEDERIA	CHLOROPHYTA	6230
SELENASTRUM	CHLOROPHYTA	71645
TETRAEDRON	CHLOROPHYTA	34265
ACHNANTHES	CHRYSOPLHYTA	3115
CHARACIDOPSIS	CHRYSOPLHYTA	165095
CYRELLA	CHRYSOPLHYTA	6230
DINOBRYON	CHRYSOPLHYTA	9345
GOMPHONEMA	CHRYSOPLHYTA	3115
HELOSIKA	CHRYSOPLHYTA	1678985
NAVICULA	CHRYSOPLHYTA	6230
OPHIOCYTIUM	CHRYSOPLHYTA	3115
STEPHANODISCUS	CHRYSOPLHYTA	15375
SYNEORA	CHRYSOPLHYTA	143290
CRYPTOMONAS	CRYPTOPHYTA	31150
ANACYSTIS	CYANOPHYTA	358225
CHROOCOCCLUS	CYANOPHYTA	80990
DACTYLOCOCCOPSIS	CYANOPHYTA	171325
MERISOPEDIA	CYANOPHYTA	12621980
OSCILLATORIA	CYANOPHYTA	560700
SPIRULINA	CYANOPHYTA	12460
EUGLENA	EUGLENOPHYTA	77875

DOT TASK 5 PHYTOPLANKTON LISTING

----- RIVER=INDIAN CREEK RIV_MILE=004.0 SAM_LDC=AJ DATE=79-09-09 REP_NUM=2 -----

TAXON	GROUP	NUM
ACTINASTRUM	CHLOROPHYTA	49840
ANKISTRODESCHUS	CHLOROPHYTA	49840
BOTRYOCOCCUS	CHLOROPHYTA	18690
BRACEACOCCLUS	CHLOROPHYTA	3115
CHLAMYDOMONAS	CHLOROPHYTA	52320
CHLORELLA	CHLOROPHYTA	9345
CHLORELLA	CHLOROPHYTA	68530
CLOSTERIOPSIS	CHLOROPHYTA	34265
CROCODONIA	CHLOROPHYTA	192635
CYCLOSPHAERIUM	CHLOROPHYTA	49840
ELAKATOPHRIX	CHLOROPHYTA	6230
GLAUCIUM	CHLOROPHYTA	18690
GOLEKINIA	CHLOROPHYTA	3115
KIRCHNERIELLA	CHLOROPHYTA	133945
KLACIUM	CHLOROPHYTA	28035
COCCYSTIS	CHLOROPHYTA	37380
PELLEASTRUM	CHLOROPHYTA	12460
FLAUKTOSPHAERIA	CHLOROPHYTA	24920
PROTOCOCCUS	CHLOROPHYTA	24920
SCHEDESCHUS	CHLOROPHYTA	660380
SCHROEDERIA	CHLOROPHYTA	21805
SELENASTRUM	CHLOROPHYTA	46725
TETRAEDRON	CHLOROPHYTA	62300
TETRASTRUM	CHLOROPHYTA	24920
TREUBARIA	CHLOROPHYTA	3115
ACHANTHES	CHRYSDOPHYTA	6230
CHARACIOPSIS	CHRYSDOPHYTA	99680
DINIBRYON	CHRYSDOPHYTA	3115
MELUSIRA	CHRYSDOPHYTA	1962450
NAVICULA	CHRYSDOPHYTA	12450
STEPHANODISCUS	CHRYSDOPHYTA	21805
SYNEURA	CHRYSDOPHYTA	146405
CRYPTOMONAS	CRYPTOPHYTA	34265
ARACYSTIS	CYANOPHYTA	214935
DACTYLOCOCCOPSIS	CYANOPHYTA	105910
MERISMOPEDIA	CYANOPHYTA	1050665
OSCILLATORIA	CYANOPHYTA	532665
SPIRULINA	CYANOPHYTA	21805
EUGLENA	EUGLENOPHYTA	71645
PHACUS	EUGLENOPHYTA	6230
TRACHELOMONAS	EUGLENOPHYTA	12460

Table 5-5A

OCCURRENCE AND ABUNDANCE OF ZOOPLANKTON TAXA IN SAMPLES COLLECTED
AFTER A LARGE RAINFALL EVENT -
SEPTEMBER 5, 1979
 (AVERAGE NUMBER/METER³)

	Indian Creek Mile	
	4.0	0.0
Rotifera		
<u>Asplanchna herricki</u>	63	- ^a
<u>A. amphora</u>	104	288
<u>A. spp.</u>	299	-
<u>Bdelloidea sp.</u>	-	1,434
<u>Beauchampiella sp.</u>	67	26
<u>Brachionus angularis</u>	2,366	1,503
<u>B. bennini</u>	-	108
<u>B. bidentata</u>	83	1,092
<u>B. budapestinensis</u>	42	204
<u>B. calyciflorus</u>	1,140	5,514
<u>B. caudatus</u>	12,309	3,553
<u>B. havanaensis</u>	241	51
<u>B. nilsoni</u>	21	-
<u>B. quadridentatus</u>	745	3,819
<u>B. urceolaris</u>	-	159
<u>Cephalodella sp.</u>	46	-
<u>Conochiloides sp.</u>	108	240
<u>Conochilus hippocrepis</u>	279	975
<u>C. unicornis</u>	-	88
<u>Epiphanes macroura</u>	279	200
<u>Euchlanis sp.</u>	67	108
<u>Filinia limnetica</u>	-	31
<u>F. longiseta</u>	212	204
<u>Hexarthra sp.</u>	-	164
<u>Kellicottia bostoniensis</u>	42	-
<u>Keratella cochlearis</u>	21	-
<u>Lecane spp.</u>	1,244	1,437
<u>L. leontina</u>	-	26
<u>Monostyla sp.</u>	137	88
<u>M. bulla</u>	-	144
<u>M. ventralis</u>	-	62
<u>Platytias patulus</u>	420	2,742
<u>P. quadricornis</u>	42	77
<u>Polyarthra sp.</u>	42	-
<u>Synchaeta sp.</u>	104	-
<u>S. stylata</u>	-	102
<u>Testudinella sp.</u>	104	482
<u>Trichocerca sp.</u>	92	31
<u>Trichotria sp.</u>	21	31
Contracted Rotifera	325	262

Table 5-5A

OCCURRENCE AND ABUNDANCE OF ZOOPLANKTON TAXA IN SAMPLES COLLECTED
AFTER A LARGE RAINFALL EVENT -
SEPTEMBER 5, 1979
 (AVERAGE NUMBER/METER³)
 (continued)

	Indian Creek Mile	
	<u>4.0</u>	<u>0.0</u>
<u>Cladocera</u>		
<u>Bosmina longirostris</u>	183	661
<u>Bosminopsis</u> sp.	-	358
<u>C. spp.</u> (immature)	-	26
<u>Diaphanosoma leuchtenbergianum</u>	-	133
<u>M. spp.</u> (immature)	-	51
<u>Copepoda</u>		
Calanoid (immature)	21	26
Cyclopoid (immature)	591	970
<u>Tropocyclops prasinus</u>	-	51
Nauplii	3,360	4,095

a. Taxa not found.

Table 5-5B

ZOOPLANKTON COMPOSITION
REPLICATE ANALYSIS RESULTS AND
CALCULATED MEANS -
RAINFALL EVENT SAMPLING

SEPTEMBER 5, 1979

----- RIVER=INDIAN CREEK YEAR=79 RIV_MILE=000.0 SAM_LOC=AJ MN=09 REP_NUM=1 -----

TAXON	GROUP	NUM
BOSMINA LONGIROSTRIS	CLADOCERA	764
BOSMINOPSIS SP.	CLADOCERA	407
CERIODAPHNIA IMM.	CLADOCERA	51
DIAPHANOSOMA LEUCHTENBERGIANUM	CLADOCERA	204
MOINA IMM.	CLADOCERA	102
CALANOIDA IMM.	COPEPODA	51
CYCLOPOIDA IMM.	COPEPODA	764
NAUPLII	COPEPODA	3056
TROPOCYCLOPS PRASINUS	COPEPODA	102
ASPLANCHNA AMPHORA	ROTIFERA	204
BDELLUIDEA	ROTIFERA	764
REUCHAMPIELLA SP.	ROTIFERA	51
BRACHIONUS ANGULARIS	ROTIFERA	1273
BRACHIONUS BENNI	ROTIFERA	153
BRACHIONUS BIDENTATA	ROTIFERA	204
BRACHIONUS BUDAPESTINENSIS	ROTIFERA	407
BRACHIONUS CALYCIFLORUS	ROTIFERA	5398
BRACHIONUS CAUDATUS	ROTIFERA	4074
BRACHIONUS MAYANAENSIS	ROTIFERA	102
BRACHIONUS QUADRIDENTATUS	ROTIFERA	3616
BRACHIONUS URCEOLARIS	ROTIFERA	255
CONOCHILOIDES SP.	ROTIFERA	356
CONCHILUS HIPPOCREPIS	ROTIFERA	713
CONCHILUS UNICORNIS	ROTIFERA	51
CONTRACTED ROTIFERA	ROTIFERA	153
EPIPHANES MACROURUS	ROTIFERA	153
EUCPLANIS SP.	ROTIFERA	153
FILINIA LONGISETA	ROTIFERA	407
HEXARTHRA SP.	ROTIFERA	204
LECANE LEONTINA	ROTIFERA	51
LECANE SP.	ROTIFERA	1484
MONOSTYLA BULLA	ROTIFERA	102
MONOSTYLA SP.	ROTIFERA	51
PLATYIAS PATULUS	ROTIFERA	3565
PLATYIAS QUADRICORNIS	ROTIFERA	153
SYNCHAETA STYLATA	ROTIFERA	204
TESTUDINELLA SP.	ROTIFERA	407

DOT TASK 5 ZOOPLANKTON CALCULATIONS
SEPTEMBER 5, 1975

YEAR=75

RIVER-INGIAN CREEK

RIV_MILE=000.0

SAM_LOC=BJ

MN=09

TAXON

GROUP

MEAN

ROSMIRA LONGIROSTRIS	CLADOCERA	640
ROSMIROPSIS SP.	CLADOCERA	358
CERIODAPHNIA IMM.	CLADOCERA	25
DIAPHANUSOMA LEUCHTENBERGIANUM	CLADOCERA	133
MOINA IMM.	CLADOCERA	51
CALANOIDA IMM.	COPEPODA	25
CYCLOPOIDA IMM.	COPEPODA	949
ERGASILUS SP.	COPEPODA	31
NAUPLII	COPEPODA	4095
TROPPOCYCLOPS PRASINUS	COPEPODA	51
ASPLANCHIA AMPHICA	ROTIFERA	287
POELOTICA	ROTIFERA	1433
REUCHAMPIDELLA SP.	ROTIFERA	25
BRACHIONUS ANGULATUS	ROTIFERA	1522
BRACHIONUS PLEUROI	ROTIFERA	127
BRACHIONUS PLEUROTATA	ROTIFERA	1331
BRACHIONUS RUPESTRENSIS	ROTIFERA	203
BRACHIONUS CALYCIFLORUS	ROTIFERA	5513
BRACHIONUS CAUDATUS	ROTIFERA	3552
BRACHIONUS HAVANAENSIS	ROTIFERA	51
BRACHIONUS GUADRUENTATUS	ROTIFERA	3818
BRACHIONUS USCEGLARIS	ROTIFERA	158
CONOCHILUS SP.	ROTIFERA	240
CONOCHILUS HIPPOCREPIS	ROTIFERA	975
CONOCHILUS UNICORNIS	ROTIFERA	87
CONTRACTED ROTIFERA	ROTIFERA	262
EPIPHANES MACPOURUS	ROTIFERA	200
EUCPLANIS SP.	ROTIFERA	107
FILINIA LIMNETICA	ROTIFERA	31
FILINIA LONGISETA	ROTIFERA	203
MEXAPTIRA SP.	ROTIFERA	164
LECANE LEONTINA	ROTIFERA	25
LECANE SP.	ROTIFERA	1437
MONOSTYLA BULLA	ROTIFERA	144
MONOSTYLA SP.	ROTIFERA	87
MYTILINA VENTRALIS	ROTIFERA	62
PLATYIAS PATULUS	ROTIFERA	2741
PLATYIAS QUADRICORNIS	ROTIFERA	76
SYNCHAETA STYLATA	ROTIFERA	102
TESTUDINELLA SP.	ROTIFERA	482
TRICHOCERCA SP.	ROTIFERA	31
TRICHOETRIA SP.	ROTIFERA	31

SEPTEMBER 5, 1979

----- RIVER=INDIAN CREEK YEAR=79 RIV_MILE=000.0 SAM_LOC=AJ MN=09 REP_NUM=2 -----

TAXON	GROUP	NUM
BOSMINA LONGIROSTRIS	CLADOCERA	557
BOSMINOPSIS SP.	CLADOCERA	309
DIAPHANOSOMA LEUCHTENBERGIANUM	CLADOCERA	62
CYCLOPOIDA IMM.	COPEPODA	1175
ERGASILUS SP.	COPEPODA	62
NAUPLII	COPEPODA	5134
ASPLANCHNA AMPHORA	ROTIFERA	371
BOLLOIDEA	ROTIFERA	2103
BRACHIONUS ANGULARIS	ROTIFERA	1732
BRACHIONUS BENNINI	ROTIFERA	62
BRACHIONUS RIDENTATA	ROTIFERA	1979
BRACHIONUS CALYCIFLORUS	ROTIFERA	5629
BRACHIONUS CAUDATUS	ROTIFERA	3031
BRACHIONUS QUADRIDENTATUS	ROTIFERA	4021
BRACHIONUS URCEOLARIS	ROTIFERA	62
CONCHILOIDES SP.	ROTIFERA	124
CONOCHILUS HIPPOCREPIS	ROTIFERA	1237
CONOCHILUS UNICORNIS	ROTIFERA	124
CONTRACTED ROTIFERA	ROTIFERA	371
EPIPHANES MACROURUS	ROTIFERA	247
EUCHLANIS SP.	ROTIFERA	62
FILINIA LIMNETICA	ROTIFERA	62
HEXARTHA SP.	ROTIFERA	124
LECANE SP.	ROTIFERA	990
MONOSTYLA BULLA	ROTIFERA	186
MONOSTYLA SP.	ROTIFERA	124
MYTILINA VENTRALIS	ROTIFERA	124
PLATYIAS PATULUS	ROTIFERA	1918
TESTUDINELLA SP.	ROTIFERA	557
TRICHOCCERCA SP.	ROTIFERA	62
TRICHOOTRIA SP.	ROTIFERA	62

SEPTEMBER 5, 1979

3

----- RIVER=INDIAN CREEK YEAR=79 RIV_MILE=004.0 SAM_LOC=AJ MN=09 REP_NUM=1 -----

TAXON	GROUP	NUM
BOSMINA LONGIROSTRIS	CLADOCERA	366
CYCLOPOIDA IMM.	COPEPODA	640
NAUPLII	COPEPODA	4390
ASPLANCHNA SP.	ROTIFERA	457
BEUCHAMPIELLA SP.	ROTIFERA	91
BRACHIONUS ANGULARIS	ROTIFERA	3567
BRACHIONUS CALYCIFLORUS	ROTIFERA	823
BRACHIONUS CAUDATUS	ROTIFERA	16463
BRACHIONUS MAVANAENSIS	ROTIFERA	274
BRACHIONUS QUADRIDENTATUS	ROTIFERA	366
CEPHALODELLA SP.	ROTIFERA	91
CONOCHILIDES SP.	ROTIFERA	91
CONOCHILUS HIPPOCREPIS	ROTIFERA	183
CONTRACTED ROTIFERA	ROTIFERA	274
EPIPHANES MACRORURUS	ROTIFERA	183
EUCHLANIS SP.	ROTIFERA	91
FILINIA LONGISETA	ROTIFERA	91
LEGANE SP.	ROTIFERA	1280
MONOSTYLA SP.	ROTIFERA	274
PLATYIAS PATULUS	ROTIFERA	549
TRICHOCCERCA SP.	ROTIFERA	183

SEPTEMBER 5, 1979

----- RIVER-INDIAN CREEK YEAR=79 RIV_MILE=004.0 SAV_LOC=AJ MN=09 REP_NUM=2 -----

TAXON	GROUP	NUM
CALANOIDA IMM.	COPEPODA	42
CYCLOPOIDA IMM.	COPEPODA	541
NAUPLII	COPEPODA	2330
ASPLANCHMA AMPHOPA	ROTIFERA	209
ASPLANCHMA HERRICKI	ROTIFERA	125
BFUCHA-PIELLA SP.	ROTIFERA	42
BRACHIONUS ANGULARIS	ROTIFERA	1165
BRACHIONUS BIDENTATA	ROTIFERA	166
BRACHIONUS BUDAPESTINENSIS	ROTIFERA	83
BRACHIONUS CALYCIFLORUS	ROTIFERA	1456
BRACHIONUS CAUCATUS	ROTIFERA	8155
BRACHIONUS HAVANAENSIS	ROTIFERA	208
BRACHIONUS NILSONI	ROTIFERA	42
BRACHIONUS QUADRIDENTATUS	ROTIFERA	1123
CONOCHILOIDES SP.	ROTIFERA	125
CONOCHILUS HIPPOCREPIS	ROTIFERA	375
CONTRACTED ROTIFERA	ROTIFERA	375
EPIPHANES MACROURUS	ROTIFERA	375
EUCHLANIS SP.	ROTIFERA	42
FILINIA LONGISETA	ROTIFERA	333
KELICOTTIA BOSTONIENSIS	ROTIFERA	83
KERATELLA COCHLEARIS	ROTIFERA	42
LECANE SP.	ROTIFERA	1207
PLATYIAS PATULUS	ROTIFERA	291
PLATYIAS QUADRICORNIS	ROTIFERA	83
POLYARTHRA SP.	ROTIFERA	83
SYNCHAETA SP.	ROTIFERA	208
TESTUDINELLA SP.	ROTIFERA	208
TRICHOPTRIA SP.	ROTIFERA	42

Table 5-6

IN SITU AND FIELD DETERMINED WATER QUALITY PARAMETERS
DURING LATE SUMMER/EARLY FALL

<u>STATION</u>	<u>DATE</u>	<u>TIME</u>	<u>DEPTH</u> <u>(m)</u>	<u>TEMP</u> <u>°C</u>	<u>DO</u> <u>mg/l</u>	<u>CONDUCTIVITY</u> <u>µmhos/cm</u>	<u>pH</u>	<u>TOTAL</u> <u>ALKALINITY mg/l</u>
TRM 350.0 LOB (Secchi disk reading - 1.0 m)	9/27/79	1555	0.3	22.5	7.9	175	7.6	-
			0.5	22.5	7.9	175	7.6	17
			1.0	22.5	7.9	175	7.6	-
			1.5	22.5	7.9	175	7.6	-
			2.0	22.5	7.9	175	7.6	-
			2.5	22.5	7.9	175	7.6	-
			3.0	22.5	7.9	175	7.6	-
			3.5	22.5	7.9	175	7.6	-
			4.0	22.5	7.9	175	7.6	-
			4.5	22.5	7.9	175	7.6	-
			5.0	22.5	7.9	175	7.6	-
			5.5	22.5	7.9	175	7.6	-
			6.0	22.5	7.9	175	7.6	-
TRM 350.0 MC (Secchi disk reading - 1.0 m)	9/27/79	1415	0.3	22.5	8.0	175	7.5	-
			0.5	22.5	7.8	175	7.5	17
			1.0	22.5	7.8	175	7.5	-
			1.5	22.5	7.8	175	7.5	-
			2.0	22.5	7.8	175	7.5	-
			2.5	22.5	7.8	175	7.5	-
			3.0	22.5	7.8	175	7.5	-
			3.5	22.5	7.7	175	7.5	-
			4.0	22.5	7.7	175	7.5	-
			4.5	22.5	7.7	175	7.5	-
			5.0	22.5	7.7	175	7.5	-
TRM 350.0 ROB (Secchi disk reading - 1.25 m)	9/27/79	1145	0.3	23.0	7.4	180	7.6	-
			0.5	23.0	7.4	180	7.6	18
			1.0	22.5	7.4	180	7.6	-
			1.5	22.5	7.4	180	7.6	-
			2.0	22.5	7.4	180	7.6	-
			2.5	22.5	7.4	180	7.6	-
			3.0	22.5	7.4	180	7.6	-
			3.5	22.5	7.4	180	7.6	-
			4.0	22.5	7.4	180	7.6	-
			4.5	22.5	7.4	180	7.6	-
			5.0	22.5	7.4	180	7.6	-
			5.5	22.5	7.4	180	7.6	-
			6.0	22.5	7.4	180	7.6	-
			6.5	22.5	7.4	180	7.6	-
			7.0	22.5	7.4	180	7.6	-
			7.5	22.5	7.4	180	7.6	-

Table 5-6

IN SITU AND FIELD DETERMINED WATER QUALITY PARAMETERS
DURING LATE SUMMER/EARLY FALL
 (continued)

<u>STATION</u>	<u>DATE</u>	<u>TIME</u>	<u>DEPTH</u> <u>(m)</u>	<u>TEMP</u> <u>°C</u>	<u>DO</u> <u>mg/l</u>	<u>CONDUCTIVITY</u> <u>µmhos/cm</u>	<u>pH</u>	<u>TOTAL</u> <u>ALKALINITY mg/l</u>
TRM 350.0 ROB (cont)	9/27/79	1145	8.0	22.5	7.4	180	7.5	-
			8.5	22.5	7.4	180	7.5	-
			9.0	22.5	7.4	180	7.5	-
			9.5	22.5	7.4	180	7.5	-
			10.0	22.5	7.4	180	7.5	-
			10.5	22.5	7.4	180	7.5	-
			11.0	22.5	7.4	180	7.5	-
			11.5	22.5	7.4	180	7.5	-
			12.0	22.5	7.4	180	7.5	-
			12.5	22.5	7.4	180	7.5	-
			13.0	22.5	7.4	180	7.5	-
			13.5	22.5	7.4	180	7.5	-
			14.0	22.5	7.4	180	7.5	-
			14.5	22.5	7.4	180	7.5	-
			15.0	22.5	7.4	180	7.5	-
			15.5	22.5	7.4	180	7.5	-
			16.0	22.5	7.4	180	7.5	-
			16.5	22.5	7.4	180	7.5	-
			17.0	22.5	7.4	180	7.5	-
TRM 345.2 LOB (Secchi disk reading - 1.0 m)	9/27/79	1350	0.5	24.0	8.3	200	7.3	18
			1.0	24.0	8.3	200	7.3	-
			1.5	24.0	8.2	200	7.2	-
			2.0	24.0	8.2	200	7.2	-
			2.5	24.0	8.1	200	7.2	-
			3.0	24.0	8.0	200	7.4	-
			3.5	24.0	8.0	200	7.4	-
			4.0	24.0	8.0	200	7.6	-
			4.5	24.0	8.0	200	7.6	-
			5.0	24.0	7.9	200	7.7	-
TRM 345.2 MID (Secchi disk reading - 1.0 m)	9/27/79	1035	5.5	23.0	7.9	200	7.7	-
			0.5	24.0	8.2	200	7.6	-
			1.0	24.0	8.1	200	7.6	-
			1.5	24.0	8.0	200	7.6	-
			2.0	24.0	8.0	200	7.6	-
			2.5	24.0	8.0	200	7.6	-
			3.0	24.0	7.9	200	7.6	-
			3.5	24.5	7.9	200	7.6	-
			4.0	24.5	7.9	200	7.6	-
			4.5	24.0	7.9	200	7.6	-
			5.0	24.0	7.9	200	7.6	-
			5.5	24.0	7.9	200	7.5	-
			6.0	24.0	7.9	200	7.5	-

Table 5-6

IN SITU AND FIELD DETERMINED WATER QUALITY PARAMETERS
DURING LATE SUMMER/EARLY FALL
 (continued)

<u>STATION</u>	<u>DATE</u>	<u>TIME</u>	<u>DEPTH</u> <u>(m)</u>	<u>TEMP</u> <u>°C</u>	<u>DO</u> <u>mg/l</u>	<u>CONDUCTIVITY</u> <u>µmhos/cm</u>	<u>pH</u>	<u>TOTAL</u> <u>ALKALINITY mg/l</u>
TRM 345.2 ROB (Secchi disk reading - 1.0 m)	9/27/79	1245	0.5	24.0	8.5	200	6.9	25
			1.0	24.0	8.3	200	6.9	-
			1.5	23.0	8.2	200	6.8	-
			2.0	23.0	8.1	200	7.0	-
			2.5	23.0	8.0	200	7.0	-
			3.0	23.0	8.0	200	7.2	-
			3.5	23.0	7.9	200	7.4	-
			4.0	23.0	7.9	200	7.6	-
			4.5	23.0	7.9	200	7.6	-
			5.0	23.0	7.9	200	7.6	-
HSBM 5.9 (Secchi disk reading - 1.25 m)	9/25/79	1615	0.3	21.0	1.4	400	7.0	46
			0.5	21.0	1.3	400	7.0	-
			1.0	21.0	1.3	400	7.0	-
HSBM 5.37 (Secchi disk reading - 1.25 m)	9/25/79	1400	0.3	21.0	1.4	400	7.1	45
			0.5	21.0	1.4	400	7.1	-
			1.0	21.0	1.4	400	7.1	-
HSBM 2.4 (Secchi disk reading - 0.4 m)	9/24/79	1000	0.3	21.5	4.6	500	7.2	30
			0.5	21.0	4.0	500	7.2	-
			1.0	21.0	4.0	500	7.2	-
			1.5	21.0	3.8	500	7.2	-
HSBM 1.3 (Secchi disk reading - 0.3 m)	9/24/79	1500	0.3	23.0	18.0	300	8.2	41
			0.5	23.0	13.8	300	8.1	-
			1.0	22.5	9.4	300	7.5	-
			1.5	22.0	6.2	300	7.3	-
			2.0	21.5	4.7	300	7.2	-
HSBM 0.0 (Secchi disk reading - 0.4 m)	9/25/79	0930	0.3	21.0	8.7	320	7.5	38
			0.5	20.5	8.6	320	7.5	-
			1.0	20.5	8.5	320	7.4	-
			1.5	20.5	8.1	320	7.4	-
			2.0	20.5	8.2	320	7.4	-
ICM 4.0 (Secchi disk reading - 0.25 m)	9/25/79	1025	0.5	22.0	13.0	360	8.1	39
			1.0	22.0	13.0	360	8.2	-
			1.5	22.0	13.0	360	8.2	-

Table 5-6

IN SITU AND FIELD DETERMINED WATER QUALITY PARAMETERS
DURING LATE SUMMER/EARLY FALL
 (continued)

<u>STATION</u>	<u>DATE</u>	<u>TIME</u>	<u>DEPTH</u> <u>(m)</u>	<u>TEMP</u> <u>°C</u>	<u>DO</u> <u>mg/l</u>	<u>CONDUCTIVITY</u> <u>µmhos/cm</u>	<u>pH</u>	<u>TOTAL</u> <u>ALKALINITY mg/l</u>
ICM 0.0 (Secchi disk reading - 1.25 m)	9/24/79	1500	0.1	22.5	7.1	240	7.3	35
			1.0	22.5	6.9	230	7.2	-
			1.5	22.5	6.9	230	7.2	-
			2.0	22.5	6.9	230	7.3	-
			2.5	22.5	6.9	230	7.3	-
			3.0	22.5	6.8	230	7.3	-
			3.5	22.5	6.9	230	7.1	-
			4.0	22.5	6.9	230	7.3	-
			4.5	22.5	6.9	230	7.1	-
			5.0	22.5	6.7	230	7.1	-
			5.5	22.5	6.6	230	7.0	-
			6.0	22.5	6.7	230	7.0	-
			6.5	22.5	6.7	230	7.0	-
BFCM 1.2 (Secchi disk reading - 0.5 m)	9/24/79	1200	0.1	23.0	7.8	280	6.0	45
			0.5	22.0	7.1	280	5.9	-
			1.0	22.0	6.9	280	5.9	-
			1.5	22.0	8.4	240	6.5	-
TRM 315.0 LOB (Secchi disk reading - 0.5 m)	9/25/79	1717	0.1	24.0	9.0	220	6.5	20
			1.0	24.0	9.0	220	6.5	-
			1.5	24.0	9.0	220	6.6	-
			2.0	24.0	9.0	220	6.6	-
			2.5	24.0	9.0	220	6.6	-
			3.0	24.0	9.0	220	6.6	-
			3.5	24.0	9.0	220	6.6	-
			4.0	24.0	9.0	220	6.6	-
			4.5	24.0	9.0	220	6.6	-
			5.0	24.0	9.0	220	6.8	-
TRM 315.0 MC (Secchi disk reading - 1.0 m)	9/25/79	1529	0.5	24.0	9.2	220	6.9	22
			1.0	24.0	9.1	220	6.9	-
			1.5	24.0	9.1	220	7.0	-
			2.0	24.0	9.1	220	7.0	-
			2.5	24.0	9.1	220	6.9	-
			3.0	24.0	9.0	220	6.9	-
			3.5	24.0	9.0	220	6.9	-
			4.0	24.0	9.0	220	6.9	-
			4.5	24.0	9.0	220	6.9	-
			5.0	24.0	9.0	220	6.8	-
			5.5	24.0	9.0	220	6.8	-
			6.0	24.0	9.0	220	6.8	-
			6.5	24.0	9.0	220	6.8	-

Table 5-6

IN SITU AND FIELD DETERMINED WATER QUALITY PARAMETERS
DURING LATE SUMMER/EARLY FALL
 (continued)

<u>STATION</u>	<u>DATE</u>	<u>TIME</u>	<u>DEPTH</u> <u>(m)</u>	<u>TEMP</u> <u>°C</u>	<u>DO</u> <u>mg/l</u>	<u>CONDUCTIVITY</u> <u>µmhos/cm</u>	<u>pH</u>	<u>TOTAL</u> <u>ALKALINITY mg/l</u>
TRM 315.0 ROB (Secchi disk reading - 1.0 m)	9/25/79	1320	0.5	24.0	9.9	220	6.4	20
			1.0	25.0	9.6	220	6.4	-
			1.5	25.0	9.6	220	6.3	-
			2.0	24.5	9.5	220	6.3	-
			2.5	24.5	9.4	220	6.5	-
			3.0	24.5	9.4	220	6.5	-
			3.5	24.0	9.3	220	6.5	-
			4.0	24.0	9.3	220	6.5	-
			4.5	23.0	9.2	220	6.5	-
			5.0	23.0	9.2	220	6.5	-
			5.5	23.0	9.1	220	6.5	-
			6.0	23.0	9.1	220	6.5	-
			6.5	23.0	9.1	220	6.5	-
TRM 289.9 LOB (Secchi disk reading not taken)	9/28/79	1400	0.5	22.0	7.9	210	6.8	-
			1.0	22.5	7.7	210	6.8	19
			1.5	22.5	7.6	210	6.8	-
			2.0	22.5	7.6	210	6.8	-
			2.5	22.5	7.6	210	6.8	-
			3.0	22.0	7.5	210	6.8	-
			3.5	22.0	7.6	210	6.8	-
			4.0	22.0	7.5	210	6.8	-
TRM 289.9 MC (Secchi disk reading not taken)	9/28/79	1010	0.5	22.0	8.4	210	6.8	-
			1.0	22.0	8.2	210	6.8	36
			1.5	22.0	8.2	210	6.8	-
			2.0	23.0	8.1	210	6.8	-
			2.5	23.0	8.0	210	6.8	-
			3.0	23.0	8.0	210	6.8	-
			3.5	23.0	8.0	210	6.8	-
			4.0	23.0	8.0	210	6.8	-
			4.5	23.0	7.9	210	6.8	-
			5.0	23.0	7.9	210	6.8	-
			5.5	22.5	7.9	210	6.8	-
			6.0	22.0	7.8	210	6.8	-
			6.5	22.0	7.8	210	6.8	-

Table 5-6

IN SITU AND FIELD DETERMINED WATER QUALITY PARAMETERS
DURING LATE SUMMER/EARLY FALL
(continued)

<u>STATION</u>	<u>DATE</u>	<u>TIME</u>	<u>DEPTH</u> <u>(m)</u>	<u>TEMP</u> <u>°C</u>	<u>DO</u> <u>mg/l</u>	<u>CONDUCTIVITY</u> <u>µmhos/cm</u>	<u>pH</u>	<u>TOTAL</u> <u>ALKALINITY mg/l</u>
TRM 289.9 ROB (Secchi disk reading - 1.0 m)	9/28/79	0915	0.5	22.0	9.1	180	6.9	-
			1.0	22.5	8.5	180	6.9	18
			1.5	22.5	8.3	180	6.9	-
			2.0	22.5	8.2	180	6.9	-
			2.5	22.5	8.2	180	6.9	-
			3.0	22.5	8.1	180	6.9	-
			3.5	22.5	8.0	180	6.9	-
			4.0	22.5	8.0	190	6.9	-

AD-A128 024

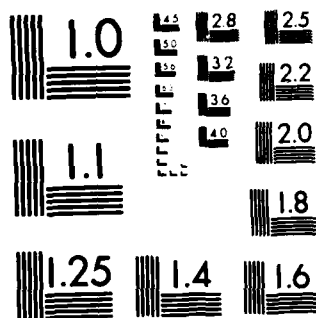
ENGINEERING AND ENVIRONMENTAL STUDY OF DDT
CONTAMINATION OF HUNTSVILLE SP..(U) WATER AND AIR
RESEARCH INC GAINESVILLE FL J H SULLIVAN ET AL. NOV 80
DACW01-79-C-0224

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MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

Table 5-7B

PHYTOPLANKTON COMPOSITION
REPLICATE ANALYSIS RESULTS AND
CALCULATED MEANS -
LATE SUMMER/EARLY FALL SAMPLING

TAXON	GROUP	MEAN
ACTINASTRUM	CHLOROPHYTA	548064
ANKISTRODESMUS	CHLOROPHYTA	99648
BRACATEACOCCLUS	CHLOROPHYTA	31140
CARTERIA	CHLOROPHYTA	3114
CHLAMYDOMONAS	CHLOROPHYTA	778500
CHLORELLA	CHLOROPHYTA	822096
CHLOROCOCCUM	CHLOROPHYTA	21798
CHLOROCONIUM	CHLOROPHYTA	21798
CHODATELLA	CHLOROPHYTA	214866
CLOSTERIOPSIS	CHLOROPHYTA	3114
COELASTRUM	CHLOROPHYTA	68508
CRUCIGENIA	CHLOROPHYTA	351882
DACTYLOCOCCUS	CHLOROPHYTA	12456
DICTYOSPHAERIUM	CHLOROPHYTA	37368
GLOEDACTINIUM	CHLOROPHYTA	12456
GOLENKINIA	CHLOROPHYTA	37368
GONIUM	CHLOROPHYTA	34254
KIRCHNERIELLA	CHLOROPHYTA	292716
MICRACINIUM	CHLOROPHYTA	242892
P. DIASTRUM	CHLOROPHYTA	102762
PRJTOCOCCUS	CHLOROPHYTA	211752
PTEROMONAS	CHLOROPHYTA	9342
PYRAMIMONAS	CHLOROPHYTA	34254
RDYA	CHLOROPHYTA	3114
SCENEDESMUS	CHLOROPHYTA	1488492
SCHROEDERIA	CHLOROPHYTA	137016
SELENASTRUM	CHLOROPHYTA	354996
TETRAEDRUM	CHLOROPHYTA	115218
TETRASTRUM	CHLOROPHYTA	68508
TREUDARIA	CHLOROPHYTA	9342
TROCHISCIA	CHLOROPHYTA	63394
UNID GREEN #1	CHLOROPHYTA	3114
ACHNANTHES	CHLOROPHYTA	137016
CHARACIOPSIS	CHLOROPHYTA	180612
CYMBELLA	CHLOROPHYTA	3114
DIATOMA	CHLOROPHYTA	3114
FRAGILARIA	CHLOROPHYTA	3114
HELOSIRA	CHLOROPHYTA	16080896
NAVICULA	CHLOROPHYTA	74736
NITZSCHIA	CHLOROPHYTA	3114
OPHIOCYTIUM	CHLOROPHYTA	12456
RHODOSPHERIA	CHLOROPHYTA	3114
STEPHANODISCUS	CHLOROPHYTA	1036962
SURIRELLA	CHLOROPHYTA	3114
SYNEORA	CHLOROPHYTA	34254
CRYPTOMONAS	CHLOROPHYTA	140130
ANABAENA	CYANOPHYTA	74736
ANACYSTIS	CYANOPHYTA	734904
APHANOTHECE	CYANOPHYTA	379908
DACTYLOCOCCOPSIS	CYANOPHYTA	662282
GLOEOTHECE	CYANOPHYTA	12456
MERISHOPEdia	CYANOPHYTA	27428112

DOT TASK 3 PHYTOPLANKTON LISTING

8155 TUESDAY, FEBRUARY 26, 1980 11

RIVER=INDIAN CREEK RIV_MILE=000.0 SAM_LOC=AJ DATE=79-09-24

TAXON	GROUP	MEAN
OSCILLATORIA	CYANOPHYTA	119210
OSCILLATORIA (SPIRAL)	CYANOPHYTA	52938
SPIRULINA	CYANOPHYTA	24912
CRYPTOGLENA	EUGLENOPHYTA	9342
EUGLENA	EUGLENOPHYTA	202410
PHACUS	EUGLENOPHYTA	9342
TRACHELOMONAS	EUGLENOPHYTA	24912

DDT TASK 9 PHYTOPLANKTON LISTING

0155 TUESDAY, FEBRUARY 26, 1980 12

RIVER-INDIAN CREEK RIV-MILB-004.0 SAM-LOC-MAJ DATE=79-09-25

TAXON	GROUP	MEAN
ACTINASTRUM	CHLOROPHYTA	541836
ANKISTRODESMUS	CHLOROPHYTA	221094
BRACTEACOCCLUS	CHLOROPHYTA	155700
CHLAMYDOMONAS	CHLOROPHYTA	865692
CHLORELLA	CHLOROPHYTA	804526
CHLOROGONIUM	CHLOROPHYTA	12456
CHODATELLA	CHLOROPHYTA	106840
CLOSTERIOPSIS	CHLOROPHYTA	6228
CLOSTERIUM	CHLOROPHYTA	3114
COELASTRUM	CHLOROPHYTA	39166
CRUCIGENIA	CHLOROPHYTA	386136
DICTYOSPHAERIUM	CHLOROPHYTA	24912
ELAKATOTHRIX	CHLOROPHYTA	15570
EUDORINA	CHLOROPHYTA	24912
GLOEOACTINIUM	CHLOROPHYTA	10684
GOLENKINIA	CHLOROPHYTA	43596
KIRCHWIELLA	CHLOROPHYTA	43596
MICRACTINIUM	CHLOROPHYTA	152386
ODCYSTIS	CHLOROPHYTA	34254
PEDIASTRUM	CHLOROPHYTA	146358
PLANKTOSPHAERIA	CHLOROPHYTA	49824
PROTOCOCCLUS	CHLOROPHYTA	280260
PTEROMONAS	CHLOROPHYTA	3114
PYRAMIDONAS	CHLOROPHYTA	10684
ROYA	CHLOROPHYTA	6228
SCENEDESMUS	CHLOROPHYTA	2260764
SCHROEDERIA	CHLOROPHYTA	161928
SELENASTRUM	CHLOROPHYTA	292716
TETRAEDRON	CHLOROPHYTA	121446
TETRASTRUM	CHLOROPHYTA	292716
TREUBARIA	CHLOROPHYTA	18684
TROCHISCIA	CHLOROPHYTA	15570
ACHNANTHES	CHLOROPHYTA	85394
CHARACTOPSIS	CHLOROPHYTA	109954
CYCLOTELLA	CHLOROPHYTA	3114
DICHOLODOROCOCCLUS	CHLOROPHYTA	15570
HELOSIRA	CHLOROPHYTA	32862042
NAVICULA	CHLOROPHYTA	37368
NITZSCHIA	CHLOROPHYTA	3114
STEPHANODISCUS	CHLOROPHYTA	865692
SYNEDRA	CHLOROPHYTA	473328
CRYPTOMONAS	CRYPTOPHYTA	233550
ANABAENA	CYANOPHYTA	96534
ANACYSTIS	CYANOPHYTA	984024
DACTYLOCOCOPSIS	CYANOPHYTA	937314
LYNGBYA	CYANOPHYTA	6228
HERISMOPEDIA	CYANOPHYTA	91558498
OSCILLATORIA	CYANOPHYTA	71622
OSCILLATORIA (SPIRAL)	CYANOPHYTA	15570
SPIRULINA	CYANOPHYTA	6228
CRYPTOGLAENA	EUGLENOPHYTA	37368
EUGLENA	EUGLENOPHYTA	55166

DOT TASK 5 PHYTOPLANKTON LISTING 8155 TUESDAY, FEBRUARY 26, 1980 13
----- RIVER-INDIAN CREEK RIV_HILB=004.0 SAM_LOCPAJ DATE=79-09-25 -----

TAXON	GROUP	MEAN
PHACUS	EUGLENOPHYTA	9342

13134 FRIDAY, FEBRUARY 22, 1980 19

DOT TASK 3 PHYTOPLANKTON LISTING RIVER-INDIAN CREEK RIV_MILE=000.0 SAM_LUC=AJ DATE=79-09-24 REP_NUM=1

TAXON	GROUP	NLM
ACTINASTRUM	CHLOROPHYTA	308286
ANKISTRADIESMUS	CHLOROPHYTA	102762
BRACTEACOCCLUS	CHLOROPHYTA	93420
CHLAMYDOMONAS	CHLOROPHYTA	1167750
CHLORELLA	CHLOROPHYTA	1055646
CHLOROGONIUM	CHLOROPHYTA	18684
CHODATELLA	CHLOROPHYTA	186840
CLOSTERIOPSIS	CHLOROPHYTA	9342
CRUCIGENIA	CHLOROPHYTA	457758
DACTYLOCOCCLUS	CHLOROPHYTA	37368
GLOEODACTINIUM	CHLOROPHYTA	37368
GONIUM	CHLOROPHYTA	102762
KIRCHNERIELLA	CHLOROPHYTA	448416
MICRACTINIUM	CHLOROPHYTA	261576
PEDIASTRUM	CHLOROPHYTA	224208
PROTOCOCCLUS	CHLOROPHYTA	270918
PTEROMONAS	CHLOROPHYTA	28026
PYRAMIDONAS	CHLOROPHYTA	37368
ROYA	CHLOROPHYTA	9342
SCENEDESMUS	CHLOROPHYTA	1578758
SCHROEDERIA	CHLOROPHYTA	140130
SELENASTRUM	CHLOROPHYTA	401706
TETRAEDRON	CHLOROPHYTA	158814
TREUBARIA	CHLOROPHYTA	9342
TROCHISCIA	CHLOROPHYTA	28026
ACHANTHES	CHRYSTOPHYTA	233550
CHARACIOPSIS	CHRYSTOPHYTA	196182
DIATOMA	CHRYSTOPHYTA	9342
MELOSTIRA	CHRYSTOPHYTA	18992286
NAVICULA	CHRYSTOPHYTA	56052
NITZSCHIA	CHRYSTOPHYTA	9342
OPHIOCYTUM	CHRYSTOPHYTA	37368
STEPHANODISCUS	CHRYSTOPHYTA	868806
SURIELLA	CHRYSTOPHYTA	9342
SYNEDRA	CHRYSTOPHYTA	485784
CRYPTOMONAS	CHRYSTOPHYTA	177498
ANABAENA	CYANOPHYTA	93420
ANACYSTIS	CYANOPHYTA	962226
APHANOTHECE	CYANOPHYTA	169472
DACTYLOCOCCLUS	CYANOPHYTA	794070
HERISMOPEDIA	CYANOPHYTA	36714060
OSCILLATORIA	CYANOPHYTA	121446
OSCILLATORIA (SPIRAL)	CYANOPHYTA	46710
SPIRULINA	CYANOPHYTA	46710
CRYPTOGLAENA	EUGLENOPHYTA	9342
EUGLENA	EUGLENOPHYTA	158814
PHACUS	EUGLENOPHYTA	9342
TRACHELOMONAS	EUGLENOPHYTA	18684

13154 FRIDAY, FEBRUARY 22, 1980 20

DOT TASK 5 PHYTOPLANKTON LISTING

REP_NUM=2

DATE=79-02-24

SAM_LOC=AJ

RIV_MILE=000.0

RIVER=INDIAN CREEK

TAXON

GROUP

NUM

ACTINASTRUM	CHLOROPHYTA	887490
ANKISTRODESMUS	CHLOROPHYTA	84078
CARTERJA	CHLOROPHYTA	9342
CHLAMYDOMONAS	CHLOROPHYTA	457758
CHLORELLA	CHLOROPHYTA	756762
CHLOROGONIUM	CHLOROPHYTA	46710
CHODATELLA	CHLOROPHYTA	177498
COELASTRUM	CHLOROPHYTA	140130
CRUCIGENIA	CHLOROPHYTA	336312
DICTYOSPHAERIUM	CHLOROPHYTA	74736
GOLENKINIA	CHLOROPHYTA	65394
KIRCHNERIELLA	CHLOROPHYTA	224208
MICRACTINIUM	CHLOROPHYTA	298944
PROTODCCCUS	CHLOROPHYTA	364338
PYRAMIDONAS	CHLOROPHYTA	18684
SCENEDESMUS	CHLOROPHYTA	1700244
SCHROEDERIA	CHLOROPHYTA	186840
SELENASTRUM	CHLOROPHYTA	242892
TETRAEDRON	CHLOROPHYTA	74736
TETRASTRUM	CHLOROPHYTA	37368
TREUBARIA	CHLOROPHYTA	9342
TROCHISCIA	CHLOROPHYTA	93420
UNITO GREEN #1	CHLOROPHYTA	9342
ACHRANTHES	CHRYSOPHYTA	112104
CHARACIOPSIS	CHRYSOPHYTA	112104
CYMBELLA	CHRYSOPHYTA	9342
HELOSIRA	CHRYSOPHYTA	17105202
NAVICULA	CHRYSOPHYTA	74736
STEPHANODISCUS	CHRYSOPHYTA	1195776
SYNEDRA	CHRYSOPHYTA	420390
CRYPTOMONAS	CRYPTOPHYTA	84078
ANABAENA	CYANOPHYTA	130788
ALACYSTIS	CYANOPHYTA	1149066
APHANOTHECE	CYANOPHYTA	990252
DACTYLOCOCCOPSIS	CYANOPHYTA	635256
GLOETHICE	CYANOPHYTA	37368
MERISOPEDIA	CYANOPHYTA	27736398
OSCILLATORIA	CYANOPHYTA	93420
OSCILLATORIA (SPIRAL)	CYANOPHYTA	74736
SPIRULINA	CYANOPHYTA	28026
CRYPTOGLAENA	EUGLENOPHYTA	9342
EUGLENA	EUGLENOPHYTA	261576
PHACUS	EUGLENOPHYTA	18684
TRACHELOMONAS	EUGLENOPHYTA	28026

13:54 FRIDAY, FEBRUARY 22, 1982 21

DOT TASK 5 PHYTOPLANKTON LISTING
RIVER-INDIAN CREEK RIV_MILE=000.0 SAM_LOC=AJ DATE=79-09-24 REP_NUM=3

TAXON	GROUP	NUM
ACTINASTRUM	CHLOROPHYTA	448416
ANKISTRODESCHUS	CHLOROPHYTA	112104
CHLAMYDOMONAS	CHLOROPHYTA	709992
CHLORELLA	CHLOROPHYTA	653940
CHLOROCOCCUM	CHLOROPHYTA	65394
CHOUATELLA	CHLOROPHYTA	280260
COELASTRUM	CHLOROPHYTA	65394
CRUCIGENIA	CHLOROPHYTA	261576
DICTYOSPHAERIUM	CHLOROPHYTA	37368
GOLENKINIA	CHLOROPHYTA	46710
KIRCHNERIELLA	CHLOROPHYTA	205524
MICRACTINIUM	CHLOROPHYTA	168156
PEDIASTRUM	CHLOROPHYTA	84078
PYRATHMONAS	CHLOROPHYTA	46710
SCENEDESCHUS	CHLOROPHYTA	1186434
SCHROEDERIA	CHLOROPHYTA	84078
SELENASTRUM	CHLOROPHYTA	420390
TETRAEDRON	CHLOROPHYTA	112104
TETRASTRUM	CHLOROPHYTA	168156
TREUBARIA	CHLOROPHYTA	9342
TROCHISCIA	CHLOROPHYTA	74726
ACHNANTHES	CHRYSTOPHYTA	65394
CHARACIOPSIS	CHRYSTOPHYTA	233550
FRAGILARIA	CHRYSTOPHYTA	9342
HELOSIRA	CHRYSTOPHYTA	12144600
NAVICULA	CHRYSTOPHYTA	93420
RHOICUSPHENIA	CHRYSTOPHYTA	9342
STEPHANODISCUS	CHRYSTOPHYTA	1046304
SYNEDRA	CHRYSTOPHYTA	130788
CRYPTOMONAS	CRYPTOPHYTA	158814
ANACYSTIS	CYANOPHYTA	93420
DACTYLOCOCCOPSIS	CYANOPHYTA	560520
HERISMOPEDIA	CYANOPHYTA	17833878
OSCILLATORIA	CYANOPHYTA	130788
OSCILLATORIA (SPIRAL)	CYANOPHYTA	37368
CRYPTOGLAENA	EUGLENOPHYTA	9342
EUGLENA	EUGLENOPHYTA	186840
TRACHELOMONAS	EUGLENOPHYTA	28026

13154 FRIDAY, FEBRUARY 22, 1960 22

DOT TASK 5 PHYTOPLANKTON LISTING

RIVER INDIAN CREEK RIV_MILE=004.0 SAM_LUC=AJ DATE=79-09-25 REP_NUM=1

TAXON	GROUP	RLM
ACTINASTRUM	CHLOROPHYTA	429732
AMNISTRODESMUS	CHLOROPHYTA	233590
BRACTEACOCCLUS	CHLOROPHYTA	112104
CHLAMYDOMONAS	CHLOROPHYTA	1008936
CHLURELLA	CHLOROPHYTA	868806
CHLOROGONIUM	CHLOROPHYTA	28026
CHODATELLA	CHLOROPHYTA	168156
CLOSTERIOPSIS	CHLOROPHYTA	9342
CRUCIGENIA	CHLOROPHYTA	298944
DICTYOSPHAERIUM	CHLOROPHYTA	37368
ELAKATOTHRIX	CHLOROPHYTA	46710
EUDURINA	CHLOROPHYTA	74736
GLOEDACTINIUM	CHLOROPHYTA	56052
GOLENKINIA	CHLOROPHYTA	18684
KIRCHNERIELLA	CHLOROPHYTA	74736
MICRACTINIUM	CHLOROPHYTA	102762
DOCYSTIS	CHLOROPHYTA	18684
PEDIASTRUM	CHLOROPHYTA	373680
PROTOCOCCLUS	CHLOROPHYTA	354996
PTEROMONAS	CHLOROPHYTA	9342
PYRAMIMONAS	CHLOROPHYTA	46710
ROYA	CHLOROPHYTA	9342
SCENEDESMUS	CHLOROPHYTA	2335500
SCHROEDERIA	CHLOROPHYTA	140130
SELENASTRUM	CHLOROPHYTA	383022
TETRAEDRON	CHLOROPHYTA	102762
TETRASTRUM	CHLOROPHYTA	541836
TREUBARIA	CHLOROPHYTA	9342
TROCHISCIA	CHLOROPHYTA	18684
ACHMANTHES	CHRYSOPHYTA	56052
CHARACIOPSIS	CHRYSOPHYTA	168156
HELOSIRA	CHRYSOPHYTA	37097082
NAVICULA	CHRYSOPHYTA	65394
NITZSCHIA	CHRYSOPHYTA	9342
STEPHANODISCUS	CHRYSOPHYTA	1064988
SYNEDRA	CHRYSOPHYTA	532494
CRYPTOONAS	CRYPTOPHYTA	326970
ANABAENA	CYANOPHYTA	140130
ANACYSTIS	CYANOPHYTA	401706
DACTYLOCOCCOPSIS	CYANOPHYTA	1027620
LYNGBYA	CYANOPHYTA	18684
MERISMOPEdia	CYANOPHYTA	39740868
OSCILLATORIA (SPIRAL)	CYANOPHYTA	84078
OSCILLATORIA	CYANOPHYTA	9342
SPIRULINA	CYANOPHYTA	18684
CRYPTOLENA	EUGLENOPHYTA	37368
EUGLENA	EUGLENOPHYTA	84078
PHACUS	EUGLENOPHYTA	9342

13154 FRIDAY, FEBRUARY 22, 1980 23

DOT TASK 3 PHYTOPLANKTON LISTING
RIVER-INDIAN CREEK RIV_MILE=004.0 SH_LOCAJ DATE=79-09-25 REP_NUM=2

TAXON	GROUP	NUM
ACTINASTRUM	CHLORUPHYTA	691308
AKISTRODESMUS	CHLORUPHYTA	298944
BRACTEACOCCLUS	CHLORUPHYTA	270918
CHLAMYDOMONAS	CHLORUPHYTA	859464
CHLORELLA	CHLORUPHYTA	719334
CHODATELLA	CHLORUPHYTA	214866
CLOSTERIOPSIS	CHLORUPHYTA	9342
CLOSTERIUM	CHLORUPHYTA	9342
COELASTRUM	CHLORUPHYTA	149472
CRUCIGENIA	CHLORUPHYTA	373680
DICTYOSPHAERIUM	CHLORUPHYTA	18684
GOLENKINIA	CHLORUPHYTA	50032
KIRCHNERIELLA	CHLORUPHYTA	28026
MICRACTINIUM	CHLORUPHYTA	298944
OOCYSTIS	CHLORUPHYTA	46710
PEDIASTRUM	CHLORUPHYTA	63394
PLANKTOSPHAERIA	CHLORUPHYTA	74736
PROTOCOCCUS	CHLORUPHYTA	411048
PYRAMIDONAS	CHLORUPHYTA	9342
ROYA	CHLORUPHYTA	9342
SCENEDESMUS	CHLORUPHYTA	2129976
SCHROEDERIA	CHLORUPHYTA	149472
SELENASTRUM	CHLORUPHYTA	298944
TETRAEDRON	CHLORUPHYTA	140130
TETRASTRUM	CHLORUPHYTA	336312
TREUBARIA	CHLORUPHYTA	9342
TROCHISCIA	CHLORUPHYTA	9342
ACHNANTHES	CHRYSDOPHYTA	37368
CHARACIOPSIS	CHRYSDOPHYTA	102762
CYCLOTELLA	CHRYSDOPHYTA	9342
DICHOEMONOCOCCLUS	CHRYSDOPHYTA	46710
HELOSIRA	CHRYSDOPHYTA	32790420
NAVICULA	CHRYSDOPHYTA	37368
STEPHANODISCUS	CHRYSDOPHYTA	86806
SYNEORA	CHRYSDOPHYTA	569662
CRYPTOMONAS	CRYPTOPHYTA	224208
ANABAENA	CYANOPHYTA	149472
ANACYSTIS	CYANOPHYTA	1457352
DACTYLOCOCCOPSIS	CYANOPHYTA	924858
HERISMOPEDIA	CYANOPHYTA	76865976
OSCILLATORIA	CYANOPHYTA	74736
OSCILLATORIA (SPIRAL)	CYANOPHYTA	9342
EUGLENA	EUGLENOPHYTA	65394

13154 FRIDAY, FEBRUARY 22, 1980 24

DDT TASK 5 PHYTOPLANKTON LISTING

REP_NUM=3

DATE=79-09-25

SAM_LOC=AJ

RIVER=INDIAN CREEK

RIV_MILE=004.0

TAXON	GROUP	NLM
ACTIVASTRUM	CHLOROPHYTA	504468
AKKISTRODESCHUS	CHLOROPHYTA	130788
BRACTEACOCCLUS	CHLOROPHYTA	84078
CHLAMYDOMONAS	CHLOROPHYTA	728676
CHLORELLA	CHLOROPHYTA	831438
CHLOROGONIUM	CHLOROPHYTA	9342
CHODATELLA	CHLOROPHYTA	177498
COELASTRUM	CHLOROPHYTA	28026
CRUCIGENIA	CHLOROPHYTA	485784
DICTYOSPHAERIUM	CHLOROPHYTA	18684
GOLENKINIA	CHLOROPHYTA	56052
KIRCHNERIELLA	CHLOROPHYTA	28026
MICRACTINIUM	CHLOROPHYTA	56052
OOCYSTIS	CHLOROPHYTA	37368
PLANKTOSPHAERIA	CHLOROPHYTA	74736
PROTOCOCCUS	CHLOROPHYTA	74736
SCENEDESCHUS	CHLOROPHYTA	2316816
SCHROEDERIA	CHLOROPHYTA	196182
SELENASTRUM	CHLOROPHYTA	196182
TETRAEDRON	CHLOROPHYTA	121446
TREUBARIA	CHLOROPHYTA	37368
TROCHISCIA	CHLOROPHYTA	18684
ACHRANTHES	CHRYSDOPHYTA	102762
CHARACIOPSIS	CHRYSDOPHYTA	298944
HELOSIRA	CHRYSDOPHYTA	28698624
NAVICULA	CHRYSDOPHYTA	9342
STEPHANODISCUS	CHRYSDOPHYTA	663262
SYNEORA	CHRYSDOPHYTA	317628
CRYPTOMONAS	CHRYSDOPHYTA	149472
ANACYSTIS	CYANOPHYTA	1093014
DACTYLOCCOCCOPSIS	CYANOPHYTA	859464
MERISOMEDIA	CYANOPHYTA	38068650
OSCILLATORIA	CYANOPHYTA	56052
OSCILLATORIA (SPIRAL)	CYANOPHYTA	28026
CRYPTOGLAENA	EUGLENOPHYTA	74736
EUGLENA	EUGLENOPHYTA	28026
PHACUS	EUGLENOPHYTA	18684

DDT TASK 5 PHYTOPLANKTON LISTING

RIVER=BARREN FORK CREEK RIV_MILE=001.2 SAM_LOCS=J

DATE=79-09-24

8155 TUESDAY, FEBRUARY 26, 1980 1

TAXON	GROUP	MEAN
ACTINASTRUM	CHLOROPHYTA	205590
ANKISTRODESCHMUS	CHLOROPHYTA	76836
BRACITACOCCLUS	CHLOROPHYTA	1038
CHLAMYDOMONAS	CHLOROPHYTA	742408
CHLORELLA	CHLOROPHYTA	258545
CHLOROGONIUM	CHLOROPHYTA	12460
CHODATELLA	CHLOROPHYTA	28035
COLESTERIUM	CHLOROPHYTA	1038
COELASTRUM	CHLOROPHYTA	74760
CRUCIGENIA	CHLOROPHYTA	220126
ELAKATOTHRIX	CHLOROPHYTA	2076
EUDORINA	CHLOROPHYTA	16613
FRANCEIA	CHLOROPHYTA	1038
GLOEODACTINIUM	CHLOROPHYTA	33226
GOLEKINIA	CHLOROPHYTA	22843
HYALOTHECA	CHLOROPHYTA	1038
KIRCHNERIELLA	CHLOROPHYTA	120446
MICRACCTINIUM	CHLOROPHYTA	19728
DOCYSTIS	CHLOROPHYTA	8306
PELOASTRUM	CHLOROPHYTA	63328
PROTOCOCCUS	CHLOROPHYTA	148481
PTERIDONAS	CHLOROPHYTA	3115
PYRATIDONAS	CHLOROPHYTA	6230
QUADRIGULA	CHLOROPHYTA	11421
SCENEDESCHMUS	CHLOROPHYTA	936576
SCHROEDERIA	CHLOROPHYTA	20766
SELENASTRUM	CHLOROPHYTA	161980
TETRAEDRON	CHLOROPHYTA	59185
TETRASTRUM	CHLOROPHYTA	74760
TREUBARIA	CHLOROPHYTA	12460
TROCHISCIA	CHLOROPHYTA	268928
UNIT GREEN #1	CHLOROPHYTA	6230
ACHNATHES	CHRYSTOPHYTA	28035
CHAEICOCEROS	CHRYSTOPHYTA	8306
CHARACIDOPSIS	CHRYSTOPHYTA	45886
CYMBELLA	CHRYSTOPHYTA	4123
DINOBRYON	CHRYSTOPHYTA	4153
GYROSTOMA	CHRYSTOPHYTA	2076
HELOSIRA	CHRYSTOPHYTA	9315228
NAVICULA	CHRYSTOPHYTA	12460
OPHIDYTIUM	CHRYSTOPHYTA	28035
STEPHANODISCUS	CHRYSTOPHYTA	255430
SURIELLA	CHRYSTOPHYTA	3115
SYNEORA	CHRYSTOPHYTA	275158
CRYPTOMONAS	CRYPTOPHYTA	49840
ANABAEIA	CYANOPHYTA	2076
ANACYSTIS	CYANOPHYTA	516051
DACTYLOCOCCOPSIS	CYANOPHYTA	200398
HERISPEDIA	CYANOPHYTA	6443896
OSCILLATORIA	CYANOPHYTA	26996
OSCILLATORIA (SPIRAL)	CYANOPHYTA	12460
SYNECHOCOCCLUS	CYANOPHYTA	2076

DOT TASK 5 PHYTOPLANKTON LISTING 8155 TUESDAY, FEBRUARY 26, 1960 2
 ----- RIVER-BARREN FORK CREEK RIV_MILE=001.2 SAM_LOC=AJ DATE=79-09-24 -----

TAXON	GROUP	MEAN
CRYPTOCLENA	EUGLENOPHYTA	14536
EUCLENA	EUGLENOPHYTA	181708
PHACUS	EUGLENOPHYTA	6230
TRACHELOMONAS	EUGLENOPHYTA	42571
GYMNODINIUM	PYRROPHYTA	6230

TAXON	GROUP	RLM
ACTINASTRUM	CHLOROPHYTA	180670
ANKYSTRODESMUS	CHLOROPHYTA	56070
CHLAMYDOMONAS	CHLOROPHYTA	1018605
CHLORELLA	CHLOROPHYTA	289695
CHLOROGONIUM	CHLOROPHYTA	6230
CHODATELLA	CHLOROPHYTA	40495
CLUSTERIUM	CHLOROPHYTA	3115
COELASTRUM	CHLOROPHYTA	49840
CRUCIGENIA	CHLOROPHYTA	295925
ELAKATOTRIX	CHLOROPHYTA	6230
EUDORINA	CHLOROPHYTA	12460
GLOEDACTINIUM	CHLOROPHYTA	31150
GOLENKINIA	CHLOROPHYTA	34265
KIRCHWIELLA	CHLOROPHYTA	130830
MICRACTINIUM	CHLOROPHYTA	18650
ODCYSTIS	CHLOROPHYTA	9345
PEDIASTRUM	CHLOROPHYTA	143290
PROTOCOCCUS	CHLOROPHYTA	124600
PYRAMIDONAS	CHLOROPHYTA	6230
QUADRIGULA	CHLOROPHYTA	21805
SCENEDESMUS	CHLOROPHYTA	956303
SCHROEDERIA	CHLOROPHYTA	24920
SELENASTRUM	CHLOROPHYTA	224280
TETRAEDRON	CHLOROPHYTA	71645
TETRASTRUM	CHLOROPHYTA	62300
TREUBARIA	CHLOROPHYTA	15575
TRICHISCIA	CHLOROPHYTA	186900
UNIT GREEN #1	CHLOROPHYTA	9345
ACHNANTHES	CHRYSOPTHYTA	15575
CHAETOCEROS	CHRYSOPTHYTA	24920
CHARACIOPSIS	CHRYSOPTHYTA	105910
CYMBELLA	CHRYSOPTHYTA	3115
DINOBRYON	CHRYSOPTHYTA	6230
HELDSTRA	CHRYSOPTHYTA	6015065
NAVICULA	CHRYSOPTHYTA	140175
OPHIOCYTIUM	CHRYSOPTHYTA	43610
STEPHANODISCUS	CHRYSOPTHYTA	311500
SURIELLA	CHRYSOPTHYTA	3115
SYNEDRA	CHRYSOPTHYTA	261600
CRYPTOMONAS	CRYPTOPHYTA	143290
ANABAENA	CYANOPHYTA	6230
ANACYSTIS	CYANOPHYTA	1118285
DACTYLOCOCCOPSIS	CYANOPHYTA	280350
HERISHOPEIDIA	CYANOPHYTA	6096055
OSCILLATORIA	CYANOPHYTA	37380
OSCILLATORIA (SPIRAL)	CYANOPHYTA	24920
SYNECHOCOCCUS	CYANOPHYTA	6230
CRYPTOGLAENA	EUGLENOPTHYTA	37380
EUGLENA	EUGLENOPTHYTA	261600
PHACUS	EUGLENOPTHYTA	3115
TRACHELOMONAS	EUGLENOPTHYTA	37380

RIVERBARREN FORK CREEK RIV.MILE#001.2 SAM.LOC=AJ DATE=79-09-24 REP.NUM=2

TAXON	GROUP	NLM
ACTINASTRUM	CHLOROPHYTA	196245
ANKISTRODESMUS	CHLOROPHYTA	112140
CHLAMYDOMONAS	CHLOROPHYTA	722680
CHLORELLA	CHLOROPHYTA	327075
CHLOROCYONIUM	CHLOROPHYTA	15575
CHODATELLA	CHLOROPHYTA	18690
COELASTRUM	CHLOROPHYTA	24920
CRUCIGENIA	CHLOROPHYTA	137060
EUDORINA	CHLOROPHYTA	12460
FRANCEIA	CHLOROPHYTA	3115
GLOEDACTINIUM	CHLOROPHYTA	18690
GULENKINIA	CHLOROPHYTA	18690
HYALOTHECA	CHLOROPHYTA	3115
KIRCHWRIELLA	CHLOROPHYTA	121485
MICRACTINIUM	CHLOROPHYTA	40495
DOCYSTIS	CHLOROPHYTA	12460
PROTOCOCCUS	CHLOROPHYTA	158865
PTEROMONAS	CHLOROPHYTA	6230
PYRAMIMONAS	CHLOROPHYTA	3115
SCYEDESUS	CHLOROPHYTA	1003030
SCHROEDERIA	CHLOROPHYTA	18690
SELENASTRUM	CHLOROPHYTA	127715
TETRAEDRON	CHLOROPHYTA	43610
TETRASTRUM	CHLOROPHYTA	87220
TREUBARIA	CHLOROPHYTA	12460
TROCHISCA	CHLOROPHYTA	289695
UNIO GREEN #1	CHLOROPHYTA	6230
ACHNANTHES	CHRYSOCHRYTA	40495
CHARACIOPSIS	CHRYSOCHRYTA	9345
CYMBELLA	CHRYSOCHRYTA	6230
DINOBRYON	CHRYSOCHRYTA	3115
GYRSICOMA	CHRYSOCHRYTA	6230
MELOSIRA	CHRYSOCHRYTA	6046215
NAVICULA	CHRYSOCHRYTA	80990
OPHIOCYTIUM	CHRYSOCHRYTA	34265
STEPHANODISCUS	CHRYSOCHRYTA	252315
SURIELLA	CHRYSOCHRYTA	3115
SYNEDRA	CHRYSOCHRYTA	376915
CRYPTOMONAS	CRYPTOPHYTA	6230
ANACYSTIS	CYANOPHYTA	59185
DACTYLOCCOCCOPSIS	CYANOPHYTA	118370
MERISMOPEdia	CYANOPHYTA	7036785
OSCILLATORIA	CYANOPHYTA	12460
OSCILLATORIA (SPIRAL)	CYANOPHYTA	9345
CRYPTOCLENA	EUGLENOCHRYTA	3115
EUGLENA	EUGLENOCHRYTA	140175
PHACUS	EUGLENOCHRYTA	9345
TRACHELOMONAS	EUGLENOCHRYTA	40495
GYMNODINIUM	PYRROPHYTA	18690

TAXON	GROUP	NLM
ACTINASTRUM	CHLOROPHYTA	239835
ANKISTRODESCHMUS	CHLOROPHYTA	62300
BRACTEACOCCLUS	CHLOROPHYTA	3115
CHLAMYDOMONAS	CHLOROPHYTA	485940
CHLORELLA	CHLOROPHYTA	158865
CHLOROGONIUM	CHLOROPHYTA	15575
CHODATELLA	CHLOROPHYTA	24920
COELASTRUM	CHLOROPHYTA	149520
CRUCIGENIA	CHLOROPHYTA	227395
EUDORINA	CHLOROPHYTA	24920
GLOEDACTINIUM	CHLOROPHYTA	49840
GOLENKINIA	CHLOROPHYTA	15575
KIRCHNERIELLA	CHLOROPHYTA	109025
ODCYSTIS	CHLOROPHYTA	3115
PEDIASTRUM	CHLOROPHYTA	46725
PROTOCOCCUS	CHLOROPHYTA	161980
PYROPHOMAS	CHLOROPHYTA	3115
PYRAMIDOMAS	CHLOROPHYTA	9345
QUADRIGULA	CHLOROPHYTA	12460
SCENEDESMUS	CHLOROPHYTA	850395
SCHROEDERIA	CHLOROPHYTA	18690
SELENASTRUM	CHLOROPHYTA	133945
TETRAEDRON	CHLOROPHYTA	62300
TETRASTRUM	CHLOROPHYTA	74760
TREUBARIA	CHLOROPHYTA	9345
TROCHISCIA	CHLOROPHYTA	330190
UNID GREEN #1	CHLOROPHYTA	3115
ACHNANTHES	CHRYSOPLHYTA	28035
CHARACIOPSIS	CHRYSOPLHYTA	21805
CYMBELLA	CHRYSOPLHYTA	3115
DINOBRYON	CHRYSOPLHYTA	3115
HELOSTRA	CHRYSOPLHYTA	3884405
NAVICULA	CHRYSOPLHYTA	152635
OPHIOCYTIUM	CHRYSOPLHYTA	6230
STEPHANODISCUS	CHRYSOPLHYTA	202475
SURIRELLA	CHRYSOPLHYTA	3115
SYNEORA	CHRYSOPLHYTA	186900
ANACYSTIS	CYANOPHYTA	370685
DACYLOCOCCOPSIS	CYANOPHYTA	202475
HERISHOPEDIA	CYANOPHYTA	6198850
OSCILLATORIA	CYANOPHYTA	31150
OSCILLATORIA (SPIRAL)	CYANOPHYTA	3115
CRYPTOGLENA	EUGLENOPLHYTA	3115
EUGLENA	EUGLENOPLHYTA	143290
PHACUS	EUGLENOPLHYTA	6230
TRACHELOMONAS	EUGLENOPLHYTA	49840

8155 TUESDAY, FEBRUARY 26, 1980 3

DOT TASK 5 PHYTOPLANKTON LISTING

DATE=79-09-23

RIV_MILE000.0 SAM_LOC=AJ

RIVERHUNTSVILLE SPRING BRANCH

TAXON	GROUP	MEAN
ACTINASTRUM	CHLOROPHYTA	12460
ANKISTRODESCHMUS	CHLOROPHYTA	5191
BOTRYOCOCCUS	CHLOROPHYTA	8300
BRACEACOCCLUS	CHLOROPHYTA	3115
CHLAMYDOMONAS	CHLOROPHYTA	17440
CHLORELLA	CHLOROPHYTA	2076
CHLOROCOCCUM	CHLOROPHYTA	6230
CHLOROGONIUM	CHLOROPHYTA	6230
CHODATELLA	CHLOROPHYTA	5191
CLUSTERIDIUM	CHLOROPHYTA	1038
DICTYOSPHAERIUM	CHLOROPHYTA	30111
GOLENKINIA	CHLOROPHYTA	15575
GONIUM	CHLOROPHYTA	14530
KIRCHNERIELLA	CHLOROPHYTA	11421
MICRACTINIUM	CHLOROPHYTA	2076
PEJIASTRUM	CHLOROPHYTA	8300
PROTOCOCCUS	CHLOROPHYTA	43610
PYRANOMONAS	CHLOROPHYTA	1038
ROYA	CHLOROPHYTA	3115
SCENEDESCHMUS	CHLOROPHYTA	103833
SCHROEDERIA	CHLOROPHYTA	6230
SELENASTRUM	CHLOROPHYTA	1038
TETRAEDRON	CHLOROPHYTA	4153
TROCHISCIA	CHLOROPHYTA	12460
UNID GREEN #1	CHLOROPHYTA	1038
ACHNANTHES	CHRYSOPLHYTA	4153
CHAETOCEROS	CHRYSOPLHYTA	12460
CHARACIDOPSIS	CHRYSOPLHYTA	4153
GYROSIGNA	CHRYSOPLHYTA	1038
HELOSIRA	CHRYSOPLHYTA	548240
NAVICULA	CHRYSOPLHYTA	15575
STEPHANODISCUS	CHRYSOPLHYTA	11421
SYNEORA	CHRYSOPLHYTA	36341
CRYPTOMONAS	CRYPTOPHYTA	12460
ANABAENA	CYANOPHYTA	271005
ANACYSTIS	CYANOPHYTA	207660
CHROCOCCUS	CYANOPHYTA	4153
DACTYLOCOCCOPSIS	CYANOPHYTA	8300
LYNGBYA	CYANOPHYTA	1038
HERISMOPEDIA	CYANOPHYTA	739293
OSCILLATORIA	CYANOPHYTA	7268
OSCILLATORIA (SPIRAL)	CYANOPHYTA	1038
CRYPTOGLAENA	EUGLENOPLHYTA	6230
EUGLENA	EUGLENOPLHYTA	30111

DOT TASK 5 PHYTOPLANKTON LISTING

13154 FRIDAY, FEBRUARY 22, 1980 4

RIVERHUNTSVILLE SPRING BRANCH RIV_MILE=000.0 SAM_LOC=AJ

DATE=79-09-25 REP_NUM=1

TAXON	GROUP	NUM
ANKISTRODESMUS	CHLOROPHYTA	9345
BRACTEACOCCLUS	CHLOROPHYTA	3115
CHLAMYDOMONAS	CHLOROPHYTA	168210
CHLORELLA	CHLOROPHYTA	3115
CHLOROCONIUM	CHLOROPHYTA	6230
DICTYOSPHAERIUM	CHLOROPHYTA	77875
GOLENKINIA	CHLOROPHYTA	15575
KIRCHNERIELLA	CHLOROPHYTA	9345
ROYA	CHLOROPHYTA	6230
SCENEDESMUS	CHLOROPHYTA	87220
SCHROEDERIA	CHLOROPHYTA	12460
SELENASTRUM	CHLOROPHYTA	3115
TETRAEDRON	CHLOROPHYTA	6230
TROCHISCIA	CHLOROPHYTA	6230
ACHNANTHES	CHRYSDOPHYTA	3115
CHAETOCEROS	CHRYSDOPHYTA	24920
CHARACIOPSIS	CHRYSDOPHYTA	6230
HELOSIRA	CHRYSDOPHYTA	538895
NAVICULA	CHRYSDOPHYTA	15575
STEPHANODISCUS	CHRYSDOPHYTA	12460
SYNEDRA	CHRYSDOPHYTA	62300
CRYPTOMONAS	CRYPTOPHYTA	12460
ANABAENA	CYANOPHYTA	283465
ANACYSTIS	CYANOPHYTA	59185
CHROCOCCUS	CYANOPHYTA	12460
DACTYLOCOCCOPSIS	CYANOPHYTA	18690
HERISHOPEDIA	CYANOPHYTA	230310
OSCILLATORIA	CYANOPHYTA	3115
EUGLENA	EUGLENOPHYTA	31150

13:54 FRIDAY, FEBRUARY 22, 1980 5

DOT TASK 3 PHYTOPLANKTON LISTING

----- RIVER-HUNTSVILLE SPRING BRANCH RIV_MILE=000.0 SAM_LDC=AJ DATE=79-09-25 REP_NUM=2 -----

TAXON	GROUP	NUM
ACTINASTRUM	CHLOROPHYTA	12460
ANKISTRODESMUS	CHLOROPHYTA	3115
BRACEACOCCLUS	CHLOROPHYTA	3115
CHLAMYDOMONAS	CHLOROPHYTA	277235
CHLOROGONIUM	CHLOROPHYTA	12460
CHODATELLA	CHLOROPHYTA	6230
COLEKINIA	CHLOROPHYTA	15575
GORIUM	CHLOROPHYTA	43610
KIRCHMERIELLA	CHLOROPHYTA	15575
MICRACETINUM	CHLOROPHYTA	6230
PROTOCOCCUS	CHLOROPHYTA	96565
PYRAMIDONAS	CHLOROPHYTA	3115
SCENEDESMUS	CHLOROPHYTA	90335
TETRAEDRON	CHLOROPHYTA	6230
TROCHISCIA	CHLOROPHYTA	18690
ACHNANTHES	CHRYSDOPHYTA	3115
CHAETOCEROS	CHRYSDOPHYTA	12460
GYROSIGMA	CHRYSDOPHYTA	3115
HELOSIRA	CHRYSDOPHYTA	560700
NAVICULA	CHRYSDOPHYTA	18690
STEPHANODISCUS	CHRYSDOPHYTA	12460
SYNEORA	CHRYSDOPHYTA	34265
CRYPTOMONAS	CRYPTOPHYTA	12460
ANABAENA	CYANOPHYTA	420525
ANACYSTIS	CYANOPHYTA	261660
DACTYLOCOCCOPSIS	CYANOPHYTA	3115
LYNGBYA	CYANOPHYTA	3115
MERISOPEDIA	CYANOPHYTA	1021720
OSCILLATORIA	CYANOPHYTA	9345
OSCILLATORIA (SPIRAL)	CYANOPHYTA	3115
EUGLENA	EUGLENDOPHYTA	56070

DOT TASK 5 PHYTOPLANKTON LISTING 13154 FRIDAY, FEBRUARY 22, 1980 6
 RIVER-HUNTSVILLE SPRING BRANCH RIV_MILE=000.0 SAM_LOC=AJ DATE=79-09-25 REP_NUM=3

TAXON	GROUP	NUM
ACTINASTRUM	CHLOROPHYTA	24920
ANKISTRODESHUS	CHLOROPHYTA	3115
BOTRYOCOCCUS	CHLOROPHYTA	24920
BRACTEACOCCLUS	CHLOROPHYTA	3115
CHLAHYDOMONAS	CHLOROPHYTA	77875
CHLORELLA	CHLOROPHYTA	3115
CHLOROCOCCUM	CHLOROPHYTA	18690
CHODATELLA	CHLOROPHYTA	9345
CLOSTERIDIUM	CHLOROPHYTA	3115
DICTYOSPHAERIUM	CHLOROPHYTA	12460
GOLENKINIA	CHLOROPHYTA	15575
KIRCHNERIELLA	CHLOROPHYTA	9345
PEDIASTRUM	CHLOROPHYTA	24920
PROTOCOCCUS	CHLOROPHYTA	34265
ROYA	CHLOROPHYTA	3115
SCENEDESHUS	CHLOROPHYTA	133945
SCHROEDERIA	CHLOROPHYTA	6230
TROCHISCIA	CHLOROPHYTA	12460
UNID GREEN #1	CHLOROPHYTA	3115
ACHRANTHES	CHRYSOPTHYTA	6230
CHARACIOPSIS	CHRYSOPTHYTA	6230
MELOSIRA	CHRYSOPTHYTA	545125
NAVICULA	CHRYSOPTHYTA	12460
STEPHANODISCUS	CHRYSOPTHYTA	9345
SYNEDRA	CHRYSOPTHYTA	12460
CRYPTOMONAS	CRYPTOPHYTA	12460
ANABAENA	CYANOPHYTA	109025
ANACYSTIS	CYANOPHYTA	302155
DACTYLOCOCCOPSIS	CYANOPHYTA	3115
MERISOMEDIA	CYANOPHYTA	965650
OSCILLATORIA	CYANOPHYTA	9345
CRYPTOGLENA	EUGLENOPTHYTA	18690
EUGLENA	EUGLENOPTHYTA	3115

DOY TASK 5 PHYTOPLANKTON LISTING

RIVERMOUNTSVILLE SPRING BRANCH

RIV_MILE=001.3

SAM_LDC=AD

DATE=79-09-24

TAXON	GROUP	MEAN
ACTINASTRUM	CHLOROPHYTA	566748
ANKISTODESMUS	CHLOROPHYTA	330084
BRACTEACOCCLUS	CHLOROPHYTA	28026
CHLAMYDOMONAS	CHLOROPHYTA	8705744
CHLORELLA	CHLOROPHYTA	1202004
CHLOROGONIUM	CHLOROPHYTA	15570
CHODATELLA	CHLOROPHYTA	211732
CLOSTERIDOPSIS	CHLOROPHYTA	28026
CLOSTERIUM	CHLOROPHYTA	12456
COELASTRUM	CHLOROPHYTA	49824
COSPARIUM	CHLOROPHYTA	6228
CRUCIGENIA	CHLOROPHYTA	653940
DICTYOSPHAERIUM	CHLOROPHYTA	87192
EUDORINA	CHLOROPHYTA	373680
GLOEDACTINIUM	CHLOROPHYTA	49824
GULENKINIA	CHLOROPHYTA	93420
GONIUM	CHLOROPHYTA	24912
HYALOTHECA	CHLOROPHYTA	6228
KIRCHNERIELLA	CHLOROPHYTA	99648
MICRACTINIUM	CHLOROPHYTA	37368
DOCYSTIS	CHLOROPHYTA	124560
PANDORINA	CHLOROPHYTA	99648
PROTOCOCCUS	CHLOROPHYTA	597888
PYRAMIDONAS	CHLOROPHYTA	9342
SCENEDESMUS	CHLOROPHYTA	2391552
SCHROEDERIA	CHLOROPHYTA	46710
SELENASTRUM	CHLOROPHYTA	738018
TETRAEDRON	CHLOROPHYTA	124560
TETRASTRUM	CHLOROPHYTA	99648
TREUBARIA	CHLOROPHYTA	3114
UNIT GREEN #1	CHLOROPHYTA	3114
ACHNANTHES	CHRYSTOPHYTA	12456
CHARACIOPSIS	CHRYSTOPHYTA	217980
COCCONEIS	CHRYSTOPHYTA	3114
CYMBELLA	CHRYSTOPHYTA	12456
MELOSTIRA	CHRYSTOPHYTA	28387224
NAVICULA	CHRYSTOPHYTA	180612
STEPHANODISCUS	CHRYSTOPHYTA	1367040
SYNEORA	CHRYSTOPHYTA	843894
UNIT CHRYSTOPHYTE # 1	CHRYSTOPHYTA	3114
CRYPTOCYNAS	CRYPTOPHYTA	80964
ANACYSTIS	CYANOPHYTA	1173978
APHANOCAPSA	CYANOPHYTA	124560
DACTYLOCOCCOPSIS	CYANOPHYTA	1189548
MERISMOPEDIA	CYANOPHYTA	57512466
OSCILLATORIA	CYANOPHYTA	274032
OSCILLATORIA (SPIRAL)	CYANOPHYTA	6228
RAPHIDIOPSIS	CYANOPHYTA	6228
SPIRULINA	CYANOPHYTA	9342
CRYPTOGLENA	EUGLENOPHYTA	37368
EUGLENA	EUGLENOPHYTA	2226510
PHACUS	EUGLENOPHYTA	31140

DDT TASK 5 PHYTOPLANKTON LISTING
 RIVERMOUNTSVILLE SPRING BRANCH RIV_MILE=001.3 SAM_LDC=AD DATE=79-09-24
 8155 TUESDAY, FEBRUARY 26, 1980 5
 TAXON GROUP MEAN
 TRACHELOMONAS EUGLENDOPHYTA 59166

RIVERMOUNTSVILLE SPRING BRANCH RIV.MILE#001.3

DOT TASK 5 PHYTOPLANKTON LISTING

13154 FRIDAY, FEBRUARY 22, 1980

7

DATE#79-09-24

REP.#NUM#1

TAXON	GROUP	NUM
ACTINASTRUM	CHLOROPHYTA	467100
ACTINOSTRUMUS	CHLOROPHYTA	373680
BRACEACOCUS	CHLOROPHYTA	84078
CHLAMYDOMONAS	CHLOROPHYTA	7623072
CHLORELLA	CHLOROPHYTA	1625508
CHODATELLA	CHLOROPHYTA	261576
CLOSTERIDOPSIS	CHLOROPHYTA	18684
CLOSTERIUM	CHLOROPHYTA	18684
COELASTRUM	CHLOROPHYTA	149472
COSCIARIUM	CHLOROPHYTA	9342
CROCIGENIA	CHLOROPHYTA	840780
DICTYOSPHAERIUM	CHLOROPHYTA	149472
EUDORINA	CHLOROPHYTA	224208
GLENNINIA	CHLOROPHYTA	112104
HYALOTHECA	CHLOROPHYTA	18684
KIRCHNERIELLA	CHLOROPHYTA	112104
MICRACTIUM	CHLOROPHYTA	18684
PROTODOCUS	CHLOROPHYTA	504468
SCENEDESMUS	CHLOROPHYTA	2858652
SCHEODERIA	CHLOROPHYTA	74736
SELENASTRUM	CHLOROPHYTA	1270512
TETRAEDRON	CHLOROPHYTA	205524
TETRASTRUM	CHLOROPHYTA	74736
CHARACIOPSIS	CHLOROPHYTA	112104
COCCONETS	CHLOROPHYTA	9342
CYMBELLA	CHLOROPHYTA	18684
HELOSTIRA	CHLOROPHYTA	31912272
NAVICULA	CHLOROPHYTA	224208
STEPHANODISCUS	CHLOROPHYTA	1233144
SYNEDRA	CHLOROPHYTA	1111698
CRYPTOMONAS	CHLOROPHYTA	93420
ANACYSTIS	CHLOROPHYTA	1214460
APHANOCAPSA	CHLOROPHYTA	373680
DACTYLOCCOCCOPSIS	CHLOROPHYTA	1513404
MERISMOPEDIA	CHLOROPHYTA	55566216
OSCELLATORIA	CHLOROPHYTA	205524
RAPHIDIOPSIS	CHLOROPHYTA	18684
CRAPTGLENA	CHLOROPHYTA	37368
EUGLENA	CHLOROPHYTA	1167750
PHACUS	CHLOROPHYTA	18684
TRACHELOMONAS	CHLOROPHYTA	37368

DOT TASK 5 PHYTOPLANKTON LISTING
RIVER HUNTSVILLE SPRING BRANCH RIV-MILE=001.3 SAN-LOC=AD

13:54 FRIDAY, FEBRUARY 22, 1982
DATE=79-09-24 REP_NUM=2

TAXON	GROUP	NUM
ACTINASTRUM	CHLOROPHYTA	597888
ANKISTRODESMUS	CHLOROPHYTA	373680
CHLAMYDOMONAS	CHLOROPHYTA	11322504
CHLORELLA	CHLOROPHYTA	1195776
CHLOROGONIUM	CHLOROPHYTA	18684
CHODATELLA	CHLOROPHYTA	186840
CLOSTERIOPSIS	CHLOROPHYTA	65394
CLOSTERIUM	CHLOROPHYTA	18684
CRUCIGENIA	CHLOROPHYTA	597888
DICTYOSPHAERIUM	CHLOROPHYTA	37368
EUDRINA	CHLOROPHYTA	896832
GLOEDACTINIUM	CHLOROPHYTA	149472
GOLENKINIA	CHLOROPHYTA	37368
KIRCHNERIELLA	CHLOROPHYTA	74736
MICRACTINIUM	CHLOROPHYTA	18684
ODCYSTIS	CHLOROPHYTA	224208
PROTOCOCCUS	CHLOROPHYTA	709992
PYRAMIDONAS	CHLOROPHYTA	28026
SCENEDESMUS	CHLOROPHYTA	2597076
SELENASTRUM	CHLOROPHYTA	943542
TETRAEDRON	CHLOROPHYTA	168156
TETRASTRUM	CHLOROPHYTA	224208
TREUBARIA	CHLOROPHYTA	9342
UNID GREEN #1	CHLOROPHYTA	9342
ACHNANTHES	CHRYSOPTHYTA	37368
CHARACIOPSIS	CHRYSOPTHYTA	411048
HELOSIRA	CHRYSOPTHYTA	2826882
NAVICULA	CHRYSOPTHYTA	130788
STEPHANODISCUS	CHRYSOPTHYTA	141984
SYNEDRA	CHRYSOPTHYTA	597888
UNID CHRYSOPTHYTE # 1	CHRYSOPTHYTA	9342
CRYPTOMONAS	CRYPTOPHYTA	140130
ANACYSTIS	CYANOPHYTA	177498
DACTYLOCOCCOPSIS	CYANOPHYTA	952884
MERISOMEDIA	CYANOPHYTA	57752244
OSCILLATORIA	CYANOPHYTA	289602
OSCILLATORIA (SPIRAL)	CYANOPHYTA	18684
SPIRULINA	CYANOPHYTA	28026
CRYPTOGLENA	EUGLENOPTHYTA	56052
EUGLENA	EUGLENOPTHYTA	2671812
PHACUS	EUGLENOPTHYTA	37368
TRACHELOMONAS	EUGLENOPTHYTA	65394

13154 FRIDAY, FEBRUARY 22, 1980 9

DOT TASK 5 PHYTOPLANKTON LISTING

----- RIVERMOUNTSVILLE SPRING BRANCH RIV_MILE=001.3 SAM_LOC=AC DATE=79-09-24 REP_NUM=3 -----

TAXON	GROUP	NUM
ACTINASTRUM	CHLOROPHYTA	635256
AKKISTRODESMUS	CHLOROPHYTA	242892
CHLAMYDOMONAS	CHLOROPHYTA	7174656
CHLORELLA	CHLOROPHYTA	784728
CHLOROCONIUM	CHLOROPHYTA	28026
CHODATELLA	CHLOROPHYTA	185840
COSMARIUM	CHLOROPHYTA	9342
CUCUGENIA	CHLOROPHYTA	523152
DICTYOSPHAERIUM	CHLOROPHYTA	74736
GOLENKINIA	CHLOROPHYTA	130788
GONIUM	CHLOROPHYTA	74736
KIRCHNERIELLA	CHLOROPHYTA	112104
MICRACTINIUM	CHLOROPHYTA	74736
OCYSTIS	CHLOROPHYTA	149472
PALUDINA	CHLOROPHYTA	298944
PROTOCOCCUS	CHLOROPHYTA	579204
SCENEDESMUS	CHLOROPHYTA	1718928
SCHROEDERIA	CHLOROPHYTA	65394
CHARACIOPSIS	CHRYSOPTHYTA	130788
CYBELLA	CHRYSOPTHYTA	18684
HELOSIRA	CHRYSOPTHYTA	24980508
NAVICULA	CHRYSOPTHYTA	186840
STEPHANODISCUS	CHRYSOPTHYTA	1448010
SYNEDRA	CHRYSOPTHYTA	822096
CRYPTOMONAS	CRYPTOPHYTA	9342
AKKYSTIS	CYANOPHYTA	2129976
DACTYLOCOCCOPSIS	CYANOPHYTA	1102356
HERISHOPIEDIA	CYANOPHYTA	59218938
OSCILLATORIA	CYANOPHYTA	326970
CRYPTOGLENA	EUGLENOPHYTA	18684
EUGLENA	EUGLENOPHYTA	2839968
PHACUS	EUGLENOPHYTA	37368
TRACHELOMONAS	EUGLENOPHYTA	74736

TAXON	GROUP	MEAN
ACTINASTRUM	CHLOROPHYTA	56070
ANKISTRODESMUS	CHLOROPHYTA	47763
CHLAMYDOMONAS	CHLOROPHYTA	386260
CHLORELLA	CHLOROPHYTA	124600
CHLOROCONIUM	CHLOROPHYTA	15575
CHODATELLA	CHLOROPHYTA	60223
CLOSTERIDIUM	CHLOROPHYTA	2076
CLOSTERIOPSIS	CHLOROPHYTA	8366
COSMATHUM	CHLOROPHYTA	1038
CRUCIGENIA	CHLOROPHYTA	49840
DICTYOSPHAERIUM	CHLOROPHYTA	13458
EUDORINA	CHLOROPHYTA	4193
GLOEODACTINIUM	CHLOROPHYTA	7268
GOLENANIA	CHLOROPHYTA	15575
KIRCHNERIELLA	CHLOROPHYTA	56070
MICRACTINIUM	CHLOROPHYTA	22843
ODCYSTIS	CHLOROPHYTA	3115
PROTOCOCCUS	CHLOROPHYTA	55031
PTEROMONAS	CHLOROPHYTA	1038
PYRAMIDONAS	CHLOROPHYTA	1038
SCENEDESMUS	CHLOROPHYTA	371723
SCHROEDERIA	CHLOROPHYTA	7268
SELENASTRUM	CHLOROPHYTA	72683
TETRAEDRON	CHLOROPHYTA	22843
TETRASTRUM	CHLOROPHYTA	20766
TREUBARIA	CHLOROPHYTA	2076
TROCHISCIA	CHLOROPHYTA	1038
ACHNANTHES	CHRYSTOPHYTA	17651
CHARACIOPSIS	CHRYSTOPHYTA	19728
COCCOHEIS	CHRYSTOPHYTA	1038
CYBELLA	CHRYSTOPHYTA	7268
FRAGILARIA	CHRYSTOPHYTA	12460
GOMPHONEMA	CHRYSTOPHYTA	2076
GYROSTOMA	CHRYSTOPHYTA	1038
HELOSIRA	CHRYSTOPHYTA	1271958
NAVICULA	CHRYSTOPHYTA	63338
NITZSCHIA	CHRYSTOPHYTA	3115
RHOICOSPHEMIA	CHRYSTOPHYTA	1038
STEPHANODISCUS	CHRYSTOPHYTA	509821
SYNEDRA	CHRYSTOPHYTA	126676
CRYPTOMONAS	CRYPTOPHYTA	3115
ANACYSTIS	CYANOPHYTA	428176
CHROOCOCCUS	CYANOPHYTA	2076
DACTYLOCOCCOPOPSIS	CYANOPHYTA	129791
LYNGBYA	CYANOPHYTA	1038
MERISOPEDIA	CYANOPHYTA	3561483
OSCILLATORIA	CYANOPHYTA	40495
OSCILLATORIA (SPIRAL)	CYANOPHYTA	14536
RAPHIDIOPSIS	CYANOPHYTA	4193
SPIRULINA	CYANOPHYTA	5191
CRYPTOCLENA	EUGLENOPHYTA	2076
EUGLENA	EUGLENOPHYTA	97603

DDT TASK 3 PHYTOPLANKTON LISTING 0155 TUESDAY, FEBRUARY 26, 1980 7
 ----- RIVERMOUNTSVILLE SPRING BRANCH RIV_MILE=002.4 SAM_LOC=AJ DATE=79-09-24 -----

TAXON	GROUP	MEAN
PHACUS	EUGLENOPHYTA	4153
TRACHELOMONAS	EUGLENOPHYTA	4153
GYMNODINIUM	PYRROPHYTA	2076

TAXON	GROUP	NLM
ACTINASTRUM	CHLOROPHYTA	99680
ANKISTRODESMUS	CHLOROPHYTA	52955
CHLAMYDOMONAS	CHLOROPHYTA	277235
CHLORELLA	CHLOROPHYTA	124600
CHLOROGONIUM	CHLOROPHYTA	28035
CHODATELLA	CHLOROPHYTA	34265
CLOSTERIDIUM	CHLOROPHYTA	6230
CLOSTERIOPSIS	CHLOROPHYTA	3115
CRUCIGENIA	CHLOROPHYTA	62300
DICTYOSPHAERIUM	CHLOROPHYTA	15575
EUDORINA	CHLOROPHYTA	12460
GOLENKINIA	CHLOROPHYTA	12460
KIRCHNERIELLA	CHLOROPHYTA	43610
MICRACTINIUM	CHLOROPHYTA	31150
ODCYSTIS	CHLOROPHYTA	9345
PROTOCOCCUS	CHLOROPHYTA	96070
SCENEDESMUS	CHLOROPHYTA	392490
SCHROEDERIA	CHLOROPHYTA	12460
SELENASTRUM	CHLOROPHYTA	34265
TETRAEDRON	CHLOROPHYTA	9345
TETRASTRUM	CHLOROPHYTA	37380
TREUBARIA	CHLOROPHYTA	3115
ACHNANTHES	CHRYSTOPHYTA	28035
CHARACIOPSIS	CHRYSTOPHYTA	9345
CYNBELLA	CHRYSTOPHYTA	12460
HELOSIRA	CHRYSTOPHYTA	1055985
NAVICULA	CHRYSTOPHYTA	56070
STEPHANODISCUS	CHRYSTOPHYTA	414295
SYNEURA	CHRYSTOPHYTA	152635
CRYPTOMONAS	CRYPTOPHYTA	3115
ANACYSTIS	CYANOPHYTA	358225
CHROOCOCCUS	CYANOPHYTA	6230
DACTYLOCOCCOPUS	CYANOPHYTA	102795
MERISOMPEZIA	CYANOPHYTA	2731855
OSCILLATORIA	CYANOPHYTA	59185
OSCILLATORIA (SPIRAL)	CYANOPHYTA	12460
SPIRULINA	CYANOPHYTA	9345
EUGLENA	EUGLENOPHYTA	140175
PHACUS	EUGLENOPHYTA	6230
TRACHELOMONAS	EUGLENOPHYTA	6230
GYNODINIUM	PYRROPHYTA	3115

DOT TASK 5 PHYTOPLANKTON LISTING
 RIVER-MOUNTSVILLE SPRING BRANCH RIV_MILE=002.4 SAM_LOC=AU
 13154 FRIDAY, FEBRUARY 22, 1980 11
 DATE=79-09-24 REP_NUM=2

TAXON	GROUP	NUM
ACTINASTRUM	CHLOROPHYTA	68530
ANKISTRODESCHMUS	CHLOROPHYTA	43610
CHLAMYDOMONAS	CHLOROPHYTA	467250
CHLORELLA	CHLOROPHYTA	137060
CHLOROCERIUM	CHLOROPHYTA	15575
CHODATELLA	CHLOROPHYTA	80990
CLOSTERIOPSIS	CHLOROPHYTA	18690
CRUCIGENIA	CHLOROPHYTA	62300
DICTYOSPHAERIUM	CHLOROPHYTA	24920
GLAUCICTINIUM	CHLOROPHYTA	15575
GOLENKINIA	CHLOROPHYTA	12460
KIRCHNERIELLA	CHLOROPHYTA	71645
MICRACTINIUM	CHLOROPHYTA	18690
PROTOCOCCUS	CHLOROPHYTA	59185
PTEROYNAS	CHLOROPHYTA	3115
PYRATHOMAS	CHLOROPHYTA	3115
SCENEDESCHMUS	CHLOROPHYTA	479710
SCHROEDERIA	CHLOROPHYTA	3115
SELENASTRUM	CHLOROPHYTA	105910
TETRAEDRON	CHLOROPHYTA	40495
TROCHISCIA	CHLOROPHYTA	3115
ACHNANTHES	CHRYSDOPHYTA	3115
CHARACIOPSIS	CHRYSDOPHYTA	31150
CYMBELLA	CHRYSDOPHYTA	6230
COMPRONEHA	CHRYSDOPHYTA	3115
GYROSIGMA	CHRYSDOPHYTA	3115
HELDSIRA	CHRYSDOPHYTA	1404865
NAVICULA	CHRYSDOPHYTA	62300
NITZSCHIA	CHRYSDOPHYTA	3115
RHOICOSPHEA	CHRYSDOPHYTA	3115
STEPHANODISCUS	CHRYSDOPHYTA	492170
SYNEDRA	CHRYSDOPHYTA	227395
ANACYSTIS	CYANOPHYTA	348860
DACTYLOCOCCOPSIS	CYANOPHYTA	171325
LYNGBYA	CYANOPHYTA	3115
MERISOPEDIA	CYANOPHYTA	3326820
OSCILLATORIA (SPIRAL)	CYANOPHYTA	21805
RAPHIDIOPSIS	CYANOPHYTA	3115
SPIRULINA	CYANOPHYTA	6230
CRYPTOGLA	EUGLENOPHYTA	6230
EUGLENA	EUGLENOPHYTA	99680
TRACHELOMONAS	EUGLENOPHYTA	3115

13154 FRIDAY, FEBRUARY 22, 1980 12

DOT TASK 5 PHYTOPLANKTON LISTING

DATE=79-09-24 REP_NUM=3

RIVERMUNTSVILLE SPRING BRANCH RIV_MILE=002.4 SAM_LOC=AJ

TAXON	GROUP	NUM
ANKISTRODES MUS	CHLOROPHYTA	46725
CHLAMYDOMONAS	CHLOROPHYTA	414295
CHLORELLA	CHLOROPHYTA	112140
CHLOROGONIUM	CHLOROPHYTA	3115
CHODATELLA	CHLOROPHYTA	63415
CHLSTERIOPSIS	CHLOROPHYTA	3115
CGSMARIUM	CHLOROPHYTA	3115
CRUCIGENIA	CHLOROPHYTA	24920
GLUEDACTINIUM	CHLOROPHYTA	6230
GOLENKINIA	CHLOROPHYTA	21805
KIPCHMERIELLA	CHLOROPHYTA	52955
MICRACTINIUM	CHLOROPHYTA	18690
PRUTOCOCCLUS	CHLOROPHYTA	49840
SCHEDES MUS	CHLOROPHYTA	242970
SCHREDERIA	CHLOROPHYTA	6230
SELENASTRUM	CHLOROPHYTA	77875
TETRAEDRON	CHLOROPHYTA	18650
TETRASTRUM	CHLOROPHYTA	24920
TREUBARIA	CHLOROPHYTA	3115
ACHNANTHES	CHRYSOPLHYTA	21805
CHARACIOPSIS	CHRYSOPLHYTA	18690
COCCONEIS	CHRYSOPLHYTA	3115
CYMBELLA	CHRYSOPLHYTA	3115
FRAGILARIA	CHRYSOPLHYTA	37380
COMPHONEMA	CHRYSOPLHYTA	3115
HELOSIRA	CHRYSOPLHYTA	1355025
NAVICULA	CHRYSOPLHYTA	71645
NITZSCHIA	CHRYSOPLHYTA	6230
STEPHANODISCUS	CHRYSOPLHYTA	62300
CRYPTOMONAS	CRYPTOPHYTA	6230
ANACYSTIS	CYANOPHYTA	607425
DACTYLOCOCCOPSIS	CYANOPHYTA	115255
HERISMOPEDIA	CYANOPHYTA	4625775
OSCILLATORIA	CYANOPHYTA	62300
OSCILLATORIA (SPIRAL)	CYANOPHYTA	9345
RAPHIDIOPSIS	CYANOPHYTA	9345
EUGLENA	EUGLENOPHYTA	52955
PHACUS	EUGLENOPHYTA	6230
TRACHELOMONAS	EUGLENOPHYTA	3115
CYHNDINIUM	PYRROPHYTA	3115

0155 TUESDAY, FEBRUARY 26, 1980 9

DOT TASK 3 PHYTOPLANKTON LISTING

DATE=79-09-25

SAN_LDC-AJ

RIV_MILE=05.37

RIVERMOUNTSVILLE SPRING BRANCH

TAXON	GROUP	MEAN
ANKISTRODESCHUS	CHLOROPHYTA	7268
CHLAMYDOMONAS	CHLOROPHYTA	76836
CHODATELLA	CHLOROPHYTA	1038
CLUSTERIOPSIS	CHLOROPHYTA	1038
CRUCIGENIA	CHLOROPHYTA	8306
COLEKNIA	CHLOROPHYTA	1038
KIRCHNERIELLA	CHLOROPHYTA	1038
PLANCTOSPHAERIA	CHLOROPHYTA	33226
PTEROMONAS	CHLOROPHYTA	1038
SCYNEDESCHUS	CHLOROPHYTA	22842
SCHROEDERIA	CHLOROPHYTA	2076
SELENASTRUM	CHLOROPHYTA	6230
TETRAEDRON	CHLOROPHYTA	7268
ACHYANTHES	CHRYSTOPHYTA	5191
ASTERIONELLA	CHRYSTOPHYTA	7268
CHARACIOPSIS	CHRYSTOPHYTA	6230
COCONEIS	CHRYSTOPHYTA	1038
CY-BELLA	CHRYSTOPHYTA	10383
FRAGILARIA	CHRYSTOPHYTA	10383
GOMPHONEMA	CHRYSTOPHYTA	1038
HELSIRA	CHRYSTOPHYTA	890890
NAVICULA	CHRYSTOPHYTA	35303
NITZSCHIA	CHRYSTOPHYTA	11421
STEPHANODISCUS	CHRYSTOPHYTA	2076
SYNEORA	CHRYSTOPHYTA	40493
CRYPTOMONAS	CRYPTOPHYTA	1038
ANACYSTIS	CYANOPHYTA	130830
CHROCOCCUS	CYANOPHYTA	19728
DACTYLOCOCCOPSIS	CYANOPHYTA	15575
MERISPOEDIA	CYANOPHYTA	519166
OSCILLATORIA	CYANOPHYTA	43610
OSCILLATORIA (SPIRAL)	CYANOPHYTA	7268
RAPHIDIOPSIS	CYANOPHYTA	1038
SPIRULINA	CYANOPHYTA	2076
EUGLENA	EUGLENOPHYTA	24920
PHACUS	EUGLENOPHYTA	1038
TRACHELOMONAS	EUGLENOPHYTA	2076

DDT TASK 3 PHYTOPLANKTON LISTING 13154 FRIDAY, FEBRUARY 22, 1980 16
 RIVERMUNTSVILLE SPRING BRANCH RIV_MILE=05.37 SAM_LOC=AJ DATE=79-09-25 REP_NUM=1

TAXON	GROUP	NUM
ANKISTRODESMUS	CHLOROPHYTA	6230
CHLAMYDOMONAS	CHLOROPHYTA	99680
CLOSTERIOPSIS	CHLOROPHYTA	3115
CRUCIGENIA	CHLOROPHYTA	12460
GOLENKINIA	CHLOROPHYTA	3115
SCENEDESMUS	CHLOROPHYTA	37380
SCHROEDERIA	CHLOROPHYTA	3115
SELENASTRUM	CHLOROPHYTA	9345
TETRAEORON	CHLOROPHYTA	9345
ACHNANTHES	CHLOROPHYTA	12460
CHARACIOPSIS	CHLOROPHYTA	6230
CYMBELLA	CHLOROPHYTA	9345
MELOSTRA	CHLOROPHYTA	9345
NAVICULA	CHLOROPHYTA	40495
MITZSCHIA	CHLOROPHYTA	28035
STEPHANODISCUS	CHLOROPHYTA	3115
SYNEORA	CHLOROPHYTA	21805
CRYPTOMONAS	CRYPTOPHYTA	3115
ANACYSTIS	CYANOPHYTA	339535
CHROCOCCUS	CYANOPHYTA	31150
DACTYLOCOCCOPSIS	CYANOPHYTA	15575
MERISMOEDIA	CYANOPHYTA	249200
OSCILLATORIA	CYANOPHYTA	46725
OSCILLATORIA (SPIRAL)	CYANOPHYTA	6230
EUGLENA	EUGLENOPHYTA	28035
PHACUS	EUGLENOPHYTA	3115
TRACHELOMONAS	EUGLENOPHYTA	3115

TAXON	GROUP	NUM
ANKISTRODES MUS	CHLOROPHYTA	12460
CHLAMYDOMONAS	CHLOROPHYTA	49840
CRUCIGENIA	CHLOROPHYTA	12460
SCENEDESMUS	CHLOROPHYTA	18690
SCRODERIA	CHLOROPHYTA	3115
SELENASTRUM	CHLOROPHYTA	6230
TETRAEDRON	CHLOROPHYTA	6230
ASTERIONELLA	CHLOROPHYTA	21805
CHARACIOPSIS	CHLOROPHYTA	6230
COCCONEIS	CHLOROPHYTA	3115
CYBELLA	CHLOROPHYTA	18690
FRAGILARIA	CHLOROPHYTA	3115
GOMPHONEMA	CHLOROPHYTA	3115
HELOSIRA	CHLOROPHYTA	2653980
NAVICULA	CHLOROPHYTA	56070
NITZSCHIA	CHLOROPHYTA	3115
STEPHANODISCUS	CHLOROPHYTA	3115
SYNEDRA	CHLOROPHYTA	74760
ANACYSTIS	CYANOPHYTA	52955
CHROCOCCUS	CYANOPHYTA	3115
DACYLOCOCCOPSIS	CYANOPHYTA	6230
MERISMOEDIA	CYANOPHYTA	784980
OSCILLATORIA	CYANOPHYTA	46725
OSCILLATORIA (SPIRAL)	CYANOPHYTA	12460
RAPHIDIOPSIS	CYANOPHYTA	3115
EUGLENA	EUGLENOPHYTA	34265
TRACHELOMONAS	EUGLENOPHYTA	3115

DOT TASK 5 PHYTOPLANKTON LISTING

13154 FRIDAY, FEBRUARY 22, 1980 18

RIVERMOUNTSVILLE SPRING BRANCH RIV_MILE=05.37 SAM_LOC=AJ DATE=79-09-25 REP_NUM=3 -----

TAXON	GROUP	NUM
ANKISTRODESNIUS	CHLOROPHYTA	3115
CHLAMYDOMONAS	CHLOROPHYTA	80990
CHODATELLA	CHLOROPHYTA	3115
KIRCHNERIELLA	CHLOROPHYTA	3115
PLANKTOSPHAERIA	CHLOROPHYTA	99680
PTEROMONAS	CHLOROPHYTA	3115
SCENEDESNIUS	CHLOROPHYTA	12460
SELENASTRUM	CHLOROPHYTA	3115
TETRAEDRON	CHLOROPHYTA	6230
ACHNANTHES	CHLOROPHYTA	3115
CHARACIOPSIS	CHLOROPHYTA	6230
CYMBELLA	CHLOROPHYTA	3115
HELOSIRA	CHLOROPHYTA	9345
NAVICULA	CHLOROPHYTA	9345
NITZSCHIA	CHLOROPHYTA	3115
SYNEURA	CHLOROPHYTA	24920
CHROOCOCCUS	CHLOROPHYTA	24920
DACTYLOCOCCOPSIS	CHLOROPHYTA	24920
HERISHOPEDIA	CHLOROPHYTA	323320
OSCILLATORIA	CHLOROPHYTA	37380
OSCILLATORIA (SPIRAL)	CHLOROPHYTA	3115
SPIRULINA	CHLOROPHYTA	6230
EUGLENA	EUGLENOPHYTA	12460

DOT TASK 5 PHYTOPLANKTON LISTING

RIVERMUNTSVILLE SPRING BRANCH RIV_MILE=005.9 SAM_LOCC=AU

8155 TUESDAY, FEBRUARY 26, 1980

DATE=79-09-25

TAXON	GROUP	MEAN
AKISTRODESCHUS	CHLOROPHYTA	8306
CHLAMYDOMONAS	CHLOROPHYTA	86181
CLOSTERIOPSIS	CHLOROPHYTA	1038
CLOSTERIUM	CHLOROPHYTA	1038
COSMARUM	CHLOROPHYTA	2076
CRUCIGENIA	CHLOROPHYTA	4153
DICYOSPHAERIUM	CHLOROPHYTA	14536
GOLEKINIA	CHLOROPHYTA	1038
GONIM	CHLOROPHYTA	4153
KIRCHNERIELLA	CHLOROPHYTA	4153
PROTOCOCCUS	CHLOROPHYTA	8306
SCENEDESCHUS	CHLOROPHYTA	43610
SELENASTRUM	CHLOROPHYTA	6230
ACANTHES	CHRYSOCHYTA	4153
CHACIOPSIS	CHRYSOCHYTA	14536
CYBELLA	CHRYSOCHYTA	2076
MELDSIRA	CHRYSOCHYTA	288656
NAVICULA	CHRYSOCHYTA	61261
NITZSCHIA	CHRYSOCHYTA	12460
SYNEDRA	CHRYSOCHYTA	25958
ANACYSTIS	CYANOPHYTA	137060
DACTYLOCOCCOPSIS	CYANOPHYTA	34269
LYNGBYA	CYANOPHYTA	15575
MERISOMEDIA	CYANOPHYTA	633383
OSCILLATORIA	CYANOPHYTA	118370
OSCILLATORIA (SPIRALIS)	CYANOPHYTA	5191
SPIRULINA	CYANOPHYTA	1038
EUGLENA	EUGLENOCHYTA	21809
PHACUS	EUGLENOCHYTA	1038
TRACHELOMONAS	EUGLENOCHYTA	1038
GLENNODINIUM	PYRROPHYTA	1038

13154 FRIDAY, FEBRUARY 22, 1980 13

DOT TASK 5 PHYTOPLANKTON LISTING

----- RIVER-HUNTSVILLE SPRING BRANCH RIV_MILE=005.9 SAM_LOC=4J DATE=79-09-25 REP_NUM=1 -----

TAXON	GROUP	NUM
ANKISTRODESMUS	CHLOROPHYTA	9345
CHLAMYDOMONAS	CHLOROPHYTA	49840
CLDSTERIDOPSIS	CHLOROPHYTA	3115
COSMARUM	CHLOROPHYTA	3115
DICTYOSPHAERIUM	CHLOROPHYTA	18690
GOLENKINIA	CHLOROPHYTA	3115
PROTOCOCCUS	CHLOROPHYTA	24920
SCENEDESMUS	CHLOROPHYTA	28035
SELENASTRUM	CHLOROPHYTA	6230
ACHNANTHES	CHRYSOPHYTA	3115
CHARACIDOPSIS	CHRYSOPHYTA	9345
HELOSIRA	CHRYSOPHYTA	844165
NAVICULA	CHRYSOPHYTA	56070
NITZSCHIA	CHRYSOPHYTA	6230
SYNEDEA	CHRYSOPHYTA	56070
ANACYSTIS	CHRYSOPHYTA	130830
DACTYLOCOCCOPSIS	CYANOPHYTA	24920
LYNGBYA	CYANOPHYTA	24920
MERISMOPEDIA	CYANOPHYTA	585620
OSCILLATORIA	CYANOPHYTA	56070
OSCILLATORIA (SPIRAL)	CYANOPHYTA	3115
SPIRULINA	CYANOPHYTA	3115
EUGLENA	EUGLENOPHYTA	9345
PHACUS	EUGLENOPHYTA	3115
TRACHELOMONAS	EUGLENOPHYTA	3115

13154 FRIDAY, FEBRUARY 22, 1980 14

DDT TASK 5 PHYTOPLANKTON LISTING

----- RIVERMUNTSVILLE SPRING BRANCH RIV_MILE=005.9 SAM_LOC=AJ DATE=79-09-25 REP_NUM=2 -----

TAXON	GROUP	NUM
CHLAMYDOMONAS	CHLOROPHYTA	6230C
CLOSTERIUM	CHLOROPHYTA	3113
DICTYOSPHAERIUM	CHLOROPHYTA	12460
SENEDESMUS	CHLOROPHYTA	34265
SELENASTRUM	CHLOROPHYTA	12460
ACINANTHES	CHRYSOCHYTA	3113
CHARACIDOPSIS	CHRYSOCHYTA	28035
CYMBELLA	CHRYSOCHYTA	3113
MELDUSIRA	CHRYSOCHYTA	9345
NAVICULA	CHRYSOCHYTA	56070
NITZSCHIA	CHRYSOCHYTA	9345
SYNEORA	CHRYSOCHYTA	9345
ANACYSTIS	CYANOPHYTA	140175
DACTYLOCCOCCOPSIS	CYANOPHYTA	28035
LYNGBYA	CYANOPHYTA	6230
HERISHOPEDIA	CYANOPHYTA	367570
OSCILLATORIA	CYANOPHYTA	115255
OSCILLATORIA (SPIRAL)	CYANOPHYTA	12460
EUGLENA	EUGLENOCHYTA	21805
GLENODINIUM	PYRROPHYTA	3113

DOT TASK 5 PHYTOPLANKTON LISTING

13154 FRIDAY, FEBRUARY 22, 1980 15

----- RIVERMOUNTSVILLE SPRING BRANCH RIV_MILE=005.9 SAM_LOC=AJ DATE=79-09-25 REP_NUM=03 -----

TAXON	GROUP	NUM
ANKISTRODESMUS	CHLOROPHYTA	15575
CHLAMYDOMONAS	CHLOROPHYTA	146405
COSMARUM	CHLOROPHYTA	3115
CRUCIGENIA	CHLOROPHYTA	12460
DICTYOSPHAERIUM	CHLOROPHYTA	12460
CONIUM	CHLOROPHYTA	12460
KIRCHNERIELLA	CHLOROPHYTA	12460
SCENEDESMUS	CHLOROPHYTA	12460
ACHNANTHES	CHLOROPHYTA	68530
CHARACIDOPSIS	CHRYSOPHYTA	6230
CYMBELLA	CHRYSOPHYTA	3115
HELOSIRA	CHRYSOPHYTA	12460
NAVICULA	CHRYSOPHYTA	71645
NITZSCHIA	CHRYSOPHYTA	21805
SYNEEDRA	CHRYSOPHYTA	12460
ANACYSTIS	CYANOPHYTA	140175
DACTYLOCOCCOPSIS	CYANOPHYTA	49840
LYNGBYA	CYANOPHYTA	15575
HERISMOPEDIA	CYANOPHYTA	946960
OSCILLATORIA	CYANOPHYTA	183785
EUGLENA	EUGLENOPHYTA	34265

DATE=79-09-28

TAXON	GROUP	MEAN
ACTINASTRUM	CHLOROPHYTA	94488
AKISTRODESCHUS	CHLOROPHYTA	11421
BRACIACOCCLUS	CHLOROPHYTA	19728
CHLAMYDOMONAS	CHLOROPHYTA	106948
CHLORELLA	CHLOROPHYTA	315653
CHLOROGONIUM	CHLOROPHYTA	3115
CHODATELLA	CHLOROPHYTA	2076
CLUSTERIDOPSIS	CHLOROPHYTA	4153
CRUCIGENIA	CHLOROPHYTA	16613
DICTYOSPHAERIUM	CHLOROPHYTA	82028
ELAKATITHRIX	CHLOROPHYTA	8306
GLUCOACTINIUM	CHLOROPHYTA	4153
GOLENAINIA	CHLOROPHYTA	25958
HYALOTHECA	CHLOROPHYTA	12460
KIRCHNERIELLA	CHLOROPHYTA	71645
MICRACTINIUM	CHLOROPHYTA	34265
MICRASTERIAS	CHLOROPHYTA	1038
ODCYSIS	CHLOROPHYTA	5191
PROTOCOCCUS	CHLOROPHYTA	99680
PTERIDONAS	CHLOROPHYTA	2076
PYRAMIDONAS	CHLOROPHYTA	1038
SCENEDESCHUS	CHLOROPHYTA	187938
SCHROEDERIA	CHLOROPHYTA	11421
SELENASTRUM	CHLOROPHYTA	19728
TREUBARIA	CHLOROPHYTA	1038
TRUCHISCA	CHLOROPHYTA	1038
UNIO GREEN #1	CHLOROPHYTA	1038
ACHNANTHES	CHLOROPHYTA	4153
ASTERIONELLA	CHLOROPHYTA	2076
CHAETOCEROS	CHLOROPHYTA	36341
COCOD-ELS	CHLOROPHYTA	3115
HELOSIRA	CHLOROPHYTA	2448390
NAVICULA	CHLOROPHYTA	1038
STEPHANODISCUS	CHLOROPHYTA	103833
SYNEDRA	CHLOROPHYTA	62300
CRYPTODONAS	CHLOROPHYTA	2076
ANACYSIS	CYANOPHYTA	615731
CHROCOCCUS	CYANOPHYTA	8306
DACTYLOCOCCOPSIS	CYANOPHYTA	63338
MERISMOEDIA	CYANOPHYTA	3171070
OSCILLATORIA	CYANOPHYTA	13498
OSCILLATORIA (SPIRAL)	CYANOPHYTA	2076
CRYPTOGLA	EUGLENDOPHYTA	2076
EUGLENA	EUGLENDOPHYTA	11421

TAXON	GROUP	NUM
ACTINASTRUM	CHLOROPHYTA	133945
ANKISTRODESMUS	CHLOROPHYTA	12460
BRACATEACOCCLUS	CHLOROPHYTA	6230
CHLAMYDOMONAS	CHLOROPHYTA	80990
CHLORELLA	CHLOROPHYTA	196245
CHLOROGONIUM	CHLOROPHYTA	6230
CLOSTERIOPSIS	CHLOROPHYTA	6230
CRUCIGENIA	CHLOROPHYTA	37380
DICTYOSPHAERIUM	CHLOROPHYTA	105910
ELAKATOTHRIX	CHLOROPHYTA	6230
GLOEODACTINIUM	CHLOROPHYTA	12460
GLENKINIA	CHLOROPHYTA	15575
HYALOTHECA	CHLOROPHYTA	37380
KIRCHNERIELLA	CHLOROPHYTA	102795
MICRACTINIUM	CHLOROPHYTA	6230
ODCYSTIS	CHLOROPHYTA	15575
PROTOCOCCUS	CHLOROPHYTA	208705
PYRAHIMONAS	CHLOROPHYTA	3115
SCENEDESMUS	CHLOROPHYTA	171325
SCRODERIA	CHLOROPHYTA	21805
SELENASTRUM	CHLOROPHYTA	18690
UNID GREEN #1	CHLOROPHYTA	3115
ACHNANTHES	CHRYSOPHYTA	3115
CHAETOCEROS	CHRYSOPHYTA	77875
HELOSIRA	CHRYSOPHYTA	2520035
STEPHANODISCUS	CHRYSOPHYTA	130830
SYNEDRA	CHRYSOPHYTA	34265
CRYPTOMONAS	CRYPTOPHYTA	3115
ANACYSTIS	CYANOPHYTA	713335
DACTYLOCOCCOPSIS	CYANOPHYTA	80990
MERISHOPEDIA	CYANOPHYTA	2906295
OSCILLATORIA	CYANOPHYTA	18690
EUGLENA	EUGLENOPHYTA	18690

13:54 FRIDAY, FEBRUARY 22, 1980 26

DDT TASK 5 PHYTOPLANKTON LISTING

REP_NUM=2

DATE=79-09-28

SMV_LOC=AD

RIV_MILE=289.7

RIVER=TENNESSEE RIVER

TAXON	GROUP	NUM
ACTINASTRUM	CHLOROPHYTA	56070
AKLISTRODESMIUS	CHLOROPHYTA	18690
BRACTEACOCCLUS	CHLOROPHYTA	21805
CHLAMYDOMONAS	CHLOROPHYTA	105910
CHLORELLA	CHLOROPHYTA	442330
CHLOROGONIUM	CHLOROPHYTA	3115
CHODATELLA	CHLOROPHYTA	3115
CLOSTERIOPSIS	CHLOROPHYTA	3115
DICTYOSPHAERIUM	CHLOROPHYTA	62300
ELAKATOTRIK	CHLOROPHYTA	6230
GOLENKINIA	CHLOROPHYTA	15575
KIRCHNERIELLA	CHLOROPHYTA	74760
PROTOCOCCUS	CHLOROPHYTA	24920
PTERODONAS	CHLOROPHYTA	6230
SCHEDESMIUS	CHLOROPHYTA	214935
SCHROEDERIA	CHLOROPHYTA	9345
SELENASTRUM	CHLOROPHYTA	28035
TROCHISCIA	CHLOROPHYTA	3115
ACHNAVITHES	CHLOROPHYTA	3115
ASTERIONELLA	CHLOROPHYTA	6230
CHAETOCEROS	CHLOROPHYTA	31150
COCconeis	CHLOROPHYTA	9345
HELOSIRA	CHLOROPHYTA	2454620
NAVICULA	CHLOROPHYTA	3115
STEPHANODISCUS	CHLOROPHYTA	115255
SYNEORA	CHLOROPHYTA	93450
CRYPTOMONAS	CRYPTOPHYTA	3115
ANACYSTIS	CYANOPHYTA	529550
DACTYLOCOCCOPSIS	CYANOPHYTA	62300
HERISOPEIDIA	CYANOPHYTA	3049585
OSCILLATORIA	CYANOPHYTA	15575
OSCILLATORIA (SPIRAL)	CYANOPHYTA	6230
EUGLENA	EUGLENOPHYTA	15575

13:54 FRIDAY, FEBRUARY 22, 1980 27

REP_NUM=3

ODT TASK 5 PHYTOPLANKTON LISTING

RIVER=TENNESSEE RIVER RIV_MILE=209.7 SAM_LOC=AD DATE=79-09-28

TAXON	GROUP	NUM
ACTINASTRUM	CHLOROPHYTA	93450
ANKISTRODESMUS	CHLOROPHYTA	3115
BRACTEACOCCLUS	CHLOROPHYTA	31150
CHLAMYDOMONAS	CHLOROPHYTA	133945
CHLORELLA	CHLOROPHYTA	308385
CHODATELLA	CHLOROPHYTA	3115
CLOSTERIOPSIS	CHLOROPHYTA	3115
CRUCIGENIA	CHLOROPHYTA	12460
DICTYOSPHAERIUM	CHLOROPHYTA	77875
ELAKATOTHRIX	CHLOROPHYTA	12460
GOLENKINIA	CHLOROPHYTA	46725
KIRCHNERIELLA	CHLOROPHYTA	37380
MICRACTINIUM	CHLOROPHYTA	96565
MICRASTERIAS	CHLOROPHYTA	3115
PROTOCOCCLUS	CHLOROPHYTA	65415
SCENEDESMUS	CHLOROPHYTA	177555
SCHROEDERIA	CHLOROPHYTA	3115
SELENASTRUM	CHLOROPHYTA	12460
TREUBARIA	CHLOROPHYTA	3115
ACHNANTHES	CHRYSOPTHYTA	6230
MELOSIRA	CHRYSOPTHYTA	2370515
STEPHANODISCUS	CHRYSOPTHYTA	65415
SYNEDRA	CHRYSOPTHYTA	59185
ANACYSTIS	CYANOPHYTA	604310
CHROOCOCCLUS	CYANOPHYTA	24920
DACTYLOCCOCCOPSIS	CYANOPHYTA	46725
MERISOMPEDIA	CYANOPHYTA	3557330
OSCILLATORIA	CYANOPHYTA	6230
CRYPTOOLENA	EUGLENOPTHYTA	6230

DOT TASK 5 PHYTOPLANKTON LISTING

13:54 FRIDAY, FEBRUARY 22, 1980 28

----- RIVER=TENNESSEE RIVER RIV_MILE=289.9 SAM_LOC=AJ DATE=79-09-28 REP_NUM=1 -----

TAXON	GROUP	NUM
ACTINASTRUM	CHLOROPHYTA	15575
ANKISTRODESMUS	CHLOROPHYTA	3115
BRACTEACOCCLUS	CHLOROPHYTA	21805
CHLAMYDOMONAS	CHLOROPHYTA	28035
CHLORELLA	CHLOROPHYTA	62300
CHODATELLA	CHLOROPHYTA	3115
DACTYLOCOCCUS	CHLOROPHYTA	9345
GOLENKINIA	CHLOROPHYTA	6230
KIRCHNERIELLA	CHLOROPHYTA	31150
MICRACTINIUM	CHLOROPHYTA	28035
SCENEDESMUS	CHLOROPHYTA	43610
SELENASTRUM	CHLOROPHYTA	6230
NAVICULA	CHRYSOPHYTA	987455
STEPHANODISCUS	CHRYSOPHYTA	21805
SYNEDRA	CHRYSOPHYTA	9345
MERISOMPEdia	CYANOPHYTA	277235
OSCILLATORIA	CYANOPHYTA	3115
CRYPTOGLENA	EUGLENOPHYTA	3115

13154 FRIDAY, FEBRUARY 22, 1980 29

DDT TASK 3 PHYTOPLANKTON LISTING

----- RIVER TENNESSEE RIVER RIV_MILE#289.9 SAM_LUC#AJ DATE#79-09-28 REP_NUM#2 -----

TAXON	GROUP	NUM
ANKISTRODESMUS	CHLOROPHYTA	3115
BRACTEACOCCLUS	CHLOROPHYTA	12460
CHLAMYDOMONAS	CHLOROPHYTA	15575
CHLORELLA	CHLOROPHYTA	52955
CLOSTERIOPSIS	CHLOROPHYTA	3115
CRUCIGENIA	CHLOROPHYTA	12460
GOLENKINIA	CHLOROPHYTA	12460
MICRACTINIUM	CHLOROPHYTA	6230
PEDIASTRUM	CHLOROPHYTA	12460
SCENEDESMUS	CHLOROPHYTA	102795
SELENASTRUM	CHLOROPHYTA	3115
TETRAEDRON	CHLOROPHYTA	3115
COCCONEIS	CHRYSDOPHYTA	3115
HELOSIRA	CHRYSDOPHYTA	1152530
STEPHANODISCUS	CHRYSDOPHYTA	21805
SYNEORA	CHRYSDOPHYTA	28035
DACTYLOCOCCOPSIS	CYANOPHYTA	18690
MERISMOPEDIA	CYANOPHYTA	261660
OSCILLATORIA	CYANOPHYTA	3115

DOT TASK 5 PHYTOPLANKTON LISTING 13154 FRIDAY, FEBRUARY 22, 1980 30
 RIVER-TENNESSEE RIVER RIV_MILE#289.9 SAM_LOC=AJ DATE=79-09-28 REP_NUM=3

TAXON	GROUP	NUM
ACTINASTRUM	CHLOROPHYTA	12460
BRACEACOCCLUS	CHLOROPHYTA	12460
CHLAMYDOMONAS	CHLOROPHYTA	18690
CHLORELLA	CHLOROPHYTA	52955
CHODATELLA	CHLOROPHYTA	6230
ELAKATOTHRIX	CHLOROPHYTA	12460
KIRCHNERIELLA	CHLOROPHYTA	6230
MICRACTINIUM	CHLOROPHYTA	6230
SCENEDESMUS	CHLOROPHYTA	56070
TETRAEDRON	CHLOROPHYTA	3115
TROCHISCIA	CHLOROPHYTA	3115
ACHNANTHES	CHRYSOPTHYTA	3115
DINOBRYON	CHRYSOPTHYTA	31150
HELOSIRA	CHRYSOPTHYTA	968765
RHIZOLENIA	CHRYSOPTHYTA	6230
STEPHANODISCUS	CHRYSOPTHYTA	12460
SYNEDRA	CHRYSOPTHYTA	12460
CRYPTOMONAS	CRYPTOPHYTA	12460
ANABAENA	CYANOPHYTA	52955
ANACYSTIS	CYANOPHYTA	208705
DACTYLOCOCCOPSIS	CYANOPHYTA	24920
HERISHOPIA	CYANOPHYTA	137060
OSCILLATORIA	CYANOPHYTA	3115

13154 FRIDAY, FEBRUARY 22, 1963 31

DDT TASK 5 PHYTOPLANKTON LISTING

----- RIVER-TENNESSEE RIVER RIV_MILE=289.9 SAM_LOC=AP DATE=79-09-28 REP_NUM=1 -----

TAXON	GROUP	NUM
ACANTHOSPHAERA	CHLOROPHYTA	3115
ACTINASTRUM	CHLOROPHYTA	12460
ANKISTRODESMUS	CHLOROPHYTA	6230
BRACTEACOCCLUS	CHLOROPHYTA	3115
CHLAMYDOMONAS	CHLOROPHYTA	31150
CHLORELLA	CHLOROPHYTA	18690
CRUCIGENIA	CHLOROPHYTA	12460
ELAKATOTHRIX	CHLOROPHYTA	6230
GOLENKINIA	CHLOROPHYTA	9345
KIRSCHERIELLA	CHLOROPHYTA	12460
DOCYSTIS	CHLOROPHYTA	12460
PECTIASTRUM	CHLOROPHYTA	6230
SCENEDESUS	CHLOROPHYTA	43610
SCHROEDERIA	CHLOROPHYTA	3115
SELENASTRUM	CHLOROPHYTA	18690
TRICHISCIA	CHLOROPHYTA	6230
ACHNANTHES	CHRYSDOPHYTA	3115
MELOSIRA	CHRYSDOPHYTA	1018605
NAVICULA	CHRYSDOPHYTA	3115
STEPHANODISCUS	CHRYSDOPHYTA	21805
SYNEORA	CHRYSDOPHYTA	34265
ANACYSTIS	CYANOPHYTA	205590
DACTYLOCOCCOPSIS	CYANOPHYTA	3115
MERISMOPEDIA	CYANOPHYTA	49840
OSCILLATORIA	CYANOPHYTA	3115
GLENODINIUM	PYRROPHYTA	3115

DOT TASK 5 PHYTOPLANKTON LISTING 13154 FRIDAY, FEBRUARY 22, 1980 30
 RIVER-TENNESSEE RIVER RIV_MILE=289.9 SAM_LOC=AJ DATE=79-09-28 REP_NUM=3

TAXON	GROUP	NUM
ACTINASTRUM	CHLOROPHYTA	12460
BRACTEACOCCLUS	CHLOROPHYTA	12460
CHLAMYDOMONAS	CHLOROPHYTA	18690
CHLORELLA	CHLOROPHYTA	52955
CHODATELLA	CHLOROPHYTA	6230
ELAKATOTHRIX	CHLOROPHYTA	12460
KIRCHNERIELLA	CHLOROPHYTA	6230
MICRACTINIUM	CHLOROPHYTA	6230
SCENEDESMUS	CHLOROPHYTA	56070
TETRAEDRON	CHLOROPHYTA	3115
TROCHISCIA	CHLOROPHYTA	3115
ACHNANTHES	CHRYSDOPHYTA	3115
DINOBRYON	CHRYSDOPHYTA	31150
HELOSIRA	CHRYSDOPHYTA	968765
RHIZOSOLENIA	CHRYSDOPHYTA	6230
STEPHANODISCUS	CHRYSDOPHYTA	12460
SYNEDRA	CHRYSDOPHYTA	12460
CRYPTOMONAS	CRYPTOPHYTA	12460
ANABAENA	CYANOPHYTA	52955
ANACYSTIS	CYANOPHYTA	208705
DACTYLOCOCCOPSIS	CYANOPHYTA	24920
MERISKOPEdia	CYANOPHYTA	137060
OSCILLATORIA	CYANOPHYTA	3115

DDT TASK 3 PHYTOPLANKTON LISTING

----- RIVER, TENNESSEE RIVER RIV_MILE=289.9 SAM_LDC=AP DATE=79-09-20 REP_NUM=2 -----

TAXON	GROUP	NUM
ACANTHOSPHERA	CHLOROPHYTA	3115
ANKISTRODESMUS	CHLOROPHYTA	6230
BRACTEACOCCLUS	CHLOROPHYTA	3115
CHLAMYDOMONAS	CHLOROPHYTA	43610
CHLORELLA	CHLOROPHYTA	31150
CHLOROCONIUM	CHLOROPHYTA	12460
GOLENKINIA	CHLOROPHYTA	6230
PAUCORINA	CHLOROPHYTA	49840
PEDIASTRUM	CHLOROPHYTA	24920
PHYCOSPHERA	CHLOROPHYTA	3115
SENECEDESCHUS	CHLOROPHYTA	71645
SELENASTRUM	CHLOROPHYTA	3115
TETRAEDRON	CHLOROPHYTA	3115
TRICHISCIA	CHLOROPHYTA	6230
COCONEIS	CHLOROPHYTA	6230
DINOBRYON	CHLOROPHYTA	9345
HELOSTRA	CHLOROPHYTA	794325
NAVICULA	CHLOROPHYTA	6230
STEPHANODISCUS	CHLOROPHYTA	34285
SYNEDRA	CHLOROPHYTA	40495
CRYPTOMONAS	CRYPTOPHYTA	12460
ANACYSTIS	CYANOPHYTA	77875
CHROCOCCUS	CYANOPHYTA	37380
DACTYLOCOCCOPHYSIS	CYANOPHYTA	3115
MERISMOPEDIA	CYANOPHYTA	199360
OSCILLATORIA	CYANOPHYTA	9345
EUGLENA	EUGLENOPHYTA	3115
GLENDONINUM	PYRROPHYTA	3115

13154 FRIDAY, FEBRUARY 22, 1980 33

DOT TASK 5 PHYTOPLANKTON LISTING

REP_NUM=3

DATE=79-09-28

SAF_LOC=AP

RIV_MILE=289.9

RIVER-TENNESSEE

TAXON	GROUP	NUM
ACTINASTRUM	CHLOROPHYTA	12460
BRACEACOCCLUS	CHLOROPHYTA	6230
CHLAMYDOMONAS	CHLOROPHYTA	37380
CHLORELLA	CHLOROPHYTA	40495
CHLOROGONIUM	CHLOROPHYTA	3115
CHODATELLA	CHLOROPHYTA	3115
GOLENKINIA	CHLOROPHYTA	6230
PANDORINA	CHLOROPHYTA	49840
PEDIASTRUM	CHLOROPHYTA	24920
PTEROMONAS	CHLOROPHYTA	3115
SCENEDESHUS	CHLOROPHYTA	46725
CHAETOCEROS	CHLOROPHYTA	12460
CHARACIOPSIS	CHRYSDOPHYTA	3115
HELOSIRA	CHRYSDOPHYTA	925155
STEPHANODISCUS	CHRYSDOPHYTA	12460
SYNEDRA	CHRYSDOPHYTA	3115
CRYPTOMONAS	CRYPTOPHYTA	9345
ANABAEANA	CYANOPHYTA	37380
ANACYSTIS	CYANOPHYTA	105910
DACTYLOCOCCOPSIS	CYANOPHYTA	19575
MERISHOPEDIA	CYANOPHYTA	299040
OSCILLATORIA	CYANOPHYTA	3115
CRYPTOGLAENA	EUGLENOPHYTA	3115
EUGLENA	EUGLENOPHYTA	3115

0155 TUESDAY, FEBRUARY 26, 1980 17

DOT TASK 5 PHYTOPLANKTON LISTING

RIVER TENNESSEE RIVER RIV-MILE#315.0 SAM-LOC#AC DATE#79-09-29

TAXON	GROUP	MEAN
ACTINASTRUM	CHLOROPHYTA	4153
ANKISTRODESMUS	CHLOROPHYTA	6230
CHLAMYDOMONAS	CHLOROPHYTA	26996
CHLORELLA	CHLOROPHYTA	14536
CHODATELLA	CHLOROPHYTA	3191
CLOSTERIDIOPSIS	CHLOROPHYTA	2076
DICTYOSPHAERIUM	CHLOROPHYTA	4153
GOLENKINIA	CHLOROPHYTA	7269
HYALOTHECA	CHLOROPHYTA	4153
KIRCHNERIELLA	CHLOROPHYTA	8306
MICRACTINIUM	CHLOROPHYTA	2076
PEDIASTRUM	CHLOROPHYTA	31150
POLYEDRIOPSIS	CHLOROPHYTA	1038
PROTOCOCCUS	CHLOROPHYTA	28035
PTEROMONAS	CHLOROPHYTA	1038
SCENEDESMUS	CHLOROPHYTA	41533
SCHROEDERIA	CHLOROPHYTA	1038
SELENASTRUM	CHLOROPHYTA	4153
TETRAEDRON	CHLOROPHYTA	3115
TETRASTRUM	CHLOROPHYTA	4153
ACHMANTHES	CHRYSOPHYTA	3115
HELOSIRA	CHRYSOPHYTA	427793
NITZSCHIA	CHRYSOPHYTA	1038
OPHIOCYTIUM	CHRYSOPHYTA	6230
STEPHANODISCUS	CHRYSOPHYTA	24920
SYNEDRA	CHRYSOPHYTA	21805
CRYPTOMONAS	CRYPTOPHYTA	2076
ANABAENA	CYANOPHYTA	41533
ANABAEOPSIS	CYANOPHYTA	141213
ANACYSTIS	CYANOPHYTA	242970
DACTYLOCOCCOPSIS	CYANOPHYTA	10383
HERISHOPEDIA	CYANOPHYTA	74760
OSCILLATORIA	CYANOPHYTA	3115
CRYPTOGLA	EUGLENOPHYTA	1038
EUGLENA	EUGLENOPHYTA	4153

DOT TASK 5 PHYTOPLANKTON LISTING

13:54 FRIDAY, FEBRUARY 22, 1980 35

RIVER-TENNESSEE RIVER RIV_MILE=315.0 SAM_LOC=AC DATE=79-09-25 REP_NUM=2

TAXON	GROUP	NUM
CHLAMYDOMONAS	CHLOROPHYTA	28035
CHLORELLA	CHLOROPHYTA	9345
GOLENKINIA	CHLOROPHYTA	9345
KIRCHNERIELLA	CHLOROPHYTA	6230
PEDIASTRUM	CHLOROPHYTA	93450
POLYEDRIOPSIS	CHLOROPHYTA	3115
PTEROMONAS	CHLOROPHYTA	3115
SCENEDESMUS	CHLOROPHYTA	31150
SELENASTRUM	CHLOROPHYTA	3115
ACHNANTHES	CHRYSOPTHYTA	3115
HELOSIRA	CHRYSOPTHYTA	386260
STEPHANODISCUS	CHRYSOPTHYTA	28035
SYNEDRA	CHRYSOPTHYTA	18690
ANABAENA	CYANOPHYTA	68530
ANACYSTIS	CYANOPHYTA	37380
DACTYLOCOCCOPSIS	CYANOPHYTA	12460
HERISHOPIEDIA	CYANOPHYTA	149520
OSCILLATORIA	CYANOPHYTA	6230
EUGLENA	EUGLENOPTHYTA	6230

13154 FRIDAY, FEBRUARY 22, 1980 34

DOT TASK 5 PHYTOPLANKTON LISTING

REP_NUM=1

DATE=79-09-25

SAM_LUC=AC

RIV_MILE=315.0

RIVER=TENNESSEE RIVER

TAXON	GROUP	NUM
ACTINASTRUM	CHLOROPHYTA	12460
ANKISTRODESMUS	CHLOROPHYTA	18690
CHLAMYDOMONAS	CHLOROPHYTA	34265
CHLORELLA	CHLOROPHYTA	18690
CHODATELLA	CHLOROPHYTA	9345
CLOSTERIOPSIS	CHLOROPHYTA	3115
DICTYOSPHAERIUM	CHLOROPHYTA	12460
GOLTERKINJA	CHLOROPHYTA	6230
HYALOTHECA	CHLOROPHYTA	12460
KIRCHNERIELLA	CHLOROPHYTA	18690
SCENEDESMUS	CHLOROPHYTA	37380
SCHROEDERIA	CHLOROPHYTA	3115
SELENASTRUM	CHLOROPHYTA	6230
TETRAEDRON	CHLOROPHYTA	3115
ACHNARTHES	CHRYSOCHYTA	6230
HELOSIPA	CHRYSOCHYTA	557585
NITZSCHIA	CHRYSOCHYTA	3115
OPHIOCYTIUM	CHRYSOCHYTA	18690
STEPHANODISCUS	CHRYSOCHYTA	31150
SYNEDRA	CHRYSOCHYTA	28035
CRYPTOMONAS	CRYPTOPHYTA	6230
ANABAENA	CYANOPHYTA	24920
ANABAENOPSIS	CYANOPHYTA	623640
DACTYLOCOCCOPSIS	CYANOPHYTA	3115
OSCILLATORIA	CYANOPHYTA	3115

DOT TASK 5 PHYTOPLANKTON LISTING
 RIVER=TENNESSEE RIVER RIV_MILE#315.0 SAM_LOC#AC DATE=79-09-25 REP_NUM#2 13154 FRIDAY, FEBRUARY 22, 1980 36

TAXON	GROUP	NUM
CHLAMYDOMONAS	CHLOROPHYTA	18690
CHLORELLA	CHLOROPHYTA	15375
CHODATELLA	CHLOROPHYTA	6230
CLOSTERIOPSIS	CHLOROPHYTA	3115
GOLENKINIA	CHLOROPHYTA	6230
MICRACTINIUM	CHLOROPHYTA	6230
PROTODCCUS	CHLOROPHYTA	84103
SCENEDESMUS	CHLOROPHYTA	56070
SELENASTRUM	CHLOROPHYTA	3115
TETRAEDRON	CHLOROPHYTA	6230
TETRASTRUM	CHLOROPHYTA	12460
HELOSIRA	CHRYSDOPHYTA	339535
STEPHANODISCUS	CHRYSDOPHYTA	15375
SYNEDRA	CHRYSDOPHYTA	18690
ANABAENA	CYANOPHYTA	31150
ANACYSTIS	CYANOPHYTA	691330
DACTYLOCCOCCOPSIS	CYANOPHYTA	15375
HERISMOPEDIA	CYANOPHYTA	74160
CRYPTOCLENA	EUGLENOPHYTA	3115
EUGLENA	EUGLENOPHYTA	6230

0155 TUESDAY, FEBRUARY 26, 1960 10

DDT TASK 3 PHYTOPLANKTON LISTING

----- RIVER TENNESSEE RIVER RIV_MILE#319.0 SAM_LOC#AJ DATE#79-09-25 -----

TAXON	GROUP	MEAN
AXISTRODES MUS	CHLOROPHYTA	4153
CHLAMYDOMONAS	CHLOROPHYTA	22843
CHLORELLA	CHLOROPHYTA	22843
CHODATELLA	CHLOROPHYTA	4153
CRUCIGENIA	CHLOROPHYTA	24920
DICTYOSPHAERIUM	CHLOROPHYTA	23881
GOLENKINIA	CHLOROPHYTA	4153
HYALOTHECA	CHLOROPHYTA	9345
MICRACTINIUM	CHLOROPHYTA	8306
PEDIASTRUM	CHLOROPHYTA	23881
PTERODONAS	CHLOROPHYTA	1038
SCENEDES MUS	CHLOROPHYTA	64376
TETRAEDRON	CHLOROPHYTA	1038
UNID GREEN # 2	CHLOROPHYTA	62300
ACMANTHES	CHRYSOPHYTA	3115
CYBELLA	CHRYSOPHYTA	1038
MELOSIRA	CHRYSOPHYTA	372761
NITZSCHIA	CHRYSOPHYTA	1038
STEPHANODISCUS	CHRYSOPHYTA	13498
SYNEDRA	CHRYSOPHYTA	22843
ANABAENA	CYANOPHYTA	10383
ANACYSTIS	CYANOPHYTA	186900
DACTYLOCOCCOPSIS	CYANOPHYTA	6230
LYNGBYA	CYANOPHYTA	1038
MERISOMEDIA	CYANOPHYTA	304231
OSCILLATORIA	CYANOPHYTA	4153
OSCILLATORIA (SPIRAL)	CYANOPHYTA	1038
CRYPTOGLENA	EUGLENOPHYTA	3115
EUGLENA	EUGLENOPHYTA	1038

DOT TASK 5 PHYTOPLANKTON LISTING 13:54 FRIDAY, FEBRUARY 22, 1980 37
 RIVER-TENNESSEE RIVER RIV_MILE=315.0 SAM_LOC=AJ DATE=79-09-25 REP_NUM=1

TAXON	GROUP	NUM
ANKISTRODESCHUS	CHLOROPHYTA	12460
CHLAMYDOMONAS	CHLOROPHYTA	31150
CHLORELLA	CHLOROPHYTA	21803
CHODATELLA	CHLOROPHYTA	3115
CRUCIGENIA	CHLOROPHYTA	12460
SCENEDESCHUS	CHLOROPHYTA	68530
ACHNANTHES	CHRYSDOPHYTA	3115
HELUSIRA	CHRYSDOPHYTA	336420
NITZSCHIA	CHRYSDOPHYTA	3115
STEPHANODISCUS	CHRYSDOPHYTA	3115
SYNEDRA	CHRYSDOPHYTA	21803
ANACYSTIS	CYANOPHYTA	242970
OSCILLATORIA	CYANOPHYTA	3115
CRYPTOGLENA	EUGLENDOPHYTA	3115

13154 FRIDAY, FEBRUARY 22, 1960 38

DDT TASK 5 PHYTOPLANKTON LISTING

----- RIVER TENNESSEE RIVER RIV_MILE#315.0 SAM_LOC#AJ DATE#79-C9-25 REP_NUM#2 -----

TAXON	GROUP	NUM
CHLAMYDOMONAS	CHLOROPHYTA	24920
CHLORELLA	CHLOROPHYTA	24920
CHODATELLA	CHLOROPHYTA	6230
CRUCIGENIA	CHLOROPHYTA	62300
DICTYOSPHAERIUM	CHLOROPHYTA	9345
GULENKINIA	CHLOROPHYTA	6230
HYALOTHECA	CHLOROPHYTA	12460
MICRACITINIUM	CHLOROPHYTA	24920
PTEROMONAS	CHLOROPHYTA	3115
SCENEDESMUS	CHLOROPHYTA	40495
UNID GREEN # 2	CHLOROPHYTA	186900
ACHANANthes	CHRYSOPLHYTA	3115
MELOSIRA	CHRYSOPLHYTA	457905
STEPHANODISCUS	CHRYSOPLHYTA	28035
SYNEORA	CHRYSOPLHYTA	24920
DACTYLOCOCCOPSIS	CYANOPHYTA	9345
MERISMOPEDIA	CYANOPHYTA	675955
OSCILLATORIA	CYANOPHYTA	3115
OSCILLATORIA (SPIRAL)	CYANOPHYTA	3115
EUGLENA	EUGLENOPLHYTA	3115

DOT TASK 5 PHYTOPLANKTON LISTING

RIVER TENNESSEE RIVER RIV_MILE=315.0 SAM_LOC=AJ DATE=79-09-25 REP_NUM=3

13154 FRIDAY, FEBRUARY 22, 1980 39

TAXON	GROUP	NUM
CHLAMYDOMONAS	CHLOROPHYTA	12460
CHLORELLA	CHLOROPHYTA	21805
CHODATELLA	CHLOROPHYTA	3115
DICTYOSPHAERIUM	CHLOROPHYTA	62300
GOLENKINIA	CHLOROPHYTA	6230
HYALOTHECA	CHLOROPHYTA	15575
PEDIASTRUM	CHLOROPHYTA	71645
SCENEDESMUS	CHLOROPHYTA	84105
TETRAEDRON	CHLOROPHYTA	3115
ACHNANTHES	CHRYSDOPHYTA	3115
CYBELL	CHRYSDOPHYTA	3115
MELOSIRA	CHRYSDOPHYTA	323960
STEPHANODISCUS	CHRYSDOPHYTA	9345
SYNEORA	CHRYSDOPHYTA	21805
ANABAENA	CYANOPHYTA	31150
ANACYSTIS	CYANOPHYTA	317730
DACTYLOCCOCCOPSIS	CYANOPHYTA	9345
LYNGBYA	CYANOPHYTA	3115
HERISMOPEDIA	CYANOPHYTA	236740
USCILLATORIA	CYANOPHYTA	6230
CRYPTOGLENA	EUGLENOPHYTA	6230

0155 TUESDAY, FEBRUARY 26, 1980 19

ODT TASK 5 PHYTOPLANKTON LISTING

RIVER TENNESSEE RIVER RIV_MILE#315.0 SAM_LOG#AR DATE#79-09-25

TAXON	GROUP	MEAN
ACTINASTRUM	CHLOROPHYTA	4153
ANKISTRODESCHUS	CHLOROPHYTA	4153
CHLAMYDOMONAS	CHLOROPHYTA	23881
CHLORELLA	CHLOROPHYTA	26996
CHODATELLA	CHLOROPHYTA	1038
CRUCIGENIA	CHLOROPHYTA	24920
DICTYOSPHAERIUM	CHLOROPHYTA	21805
GOLENKINIA	CHLOROPHYTA	2076
KIRCHNERIELLA	CHLOROPHYTA	12460
OCYSTIS	CHLOROPHYTA	2076
PEDIASTRUM	CHLOROPHYTA	1038
SCENEDESCHUS	CHLOROPHYTA	83066
SCHROEDERIA	CHLOROPHYTA	3115
SELENASTRUM	CHLOROPHYTA	9345
TETRAEDRON	CHLOROPHYTA	1038
TETRASTRUM	CHLOROPHYTA	4153
TREUBARIA	CHLOROPHYTA	7268
TROCHISCIA	CHLOROPHYTA	2076
UNIT GREEN #2	CHLOROPHYTA	24920
UNIT GREEN #1	CHLOROPHYTA	1038
ACMANTHES	CHRYSTOPHYTA	3115
DI'OBAYON	CHRYSTOPHYTA	4153
MELSSIRA	CHRYSTOPHYTA	58658
NAVICULA	CHRYSTOPHYTA	1038
RHIZOLENIA	CHRYSTOPHYTA	1038
STEPHANODISCUS	CHRYSTOPHYTA	17651
SYNEDRA	CHRYSTOPHYTA	22843
ANABAENA	CYANOPHYTA	8306
ANACYSTIS	CYANOPHYTA	97603
CHROCOCCUS	CYANOPHYTA	8306
DACTYLOCOCCOPSIS	CYANOPHYTA	6230
MERISPOPEOIA	CYANOPHYTA	103833
OSCILLATORIA	CYANOPHYTA	14536
OSCILLATORIA (SPIRAL)	CYANOPHYTA	1038
EUGLENA	EUGLENOPHYTA	4153
TRACHELONONAS	EUGLENOPHYTA	1038

DOT TASK 5 PHYTOPLANKTON LISTING 13154 FRIDAY, FEBRUARY 22, 1980 40
 RIVER-TENNESSEE RIVER RIV_MILE#315.0 SAM_LOC-AR DATE-79-09-25 REP_NUM=1

TAXON	GROUP	NUM
ACTINASTRUM	CHLOROPHYTA	12460
ANKISTRODESHUS	CHLOROPHYTA	6230
CHLAMYDOMONAS	CHLOROPHYTA	37380
CHLORELLA	CHLOROPHYTA	31150
CHODATELLA	CHLOROPHYTA	3115
CRUCIGENIA	CHLOROPHYTA	24920
DICTYOSPHAERIUM	CHLOROPHYTA	65415
GOLENKINIA	CHLOROPHYTA	3115
KIRCHMERIELLA	CHLOROPHYTA	12460
SCENEDESMUS	CHLOROPHYTA	84105
SCHROEDERIA	CHLOROPHYTA	3115
SELENASTRUM	CHLOROPHYTA	3115
TETRAEDRON	CHLOROPHYTA	3115
TREUBARIA	CHLOROPHYTA	18690
UNID GREEN # 2	CHLOROPHYTA	74760
UNID GREEN #1	CHLOROPHYTA	3115
ACHNANTHES	CHRYSOPTHYTA	9345
DINOBRYON	CHRYSOPTHYTA	12460
HELOSTRA	CHRYSOPTHYTA	635460
STEPHANODISCUS	CHRYSOPTHYTA	15575
SYNEDRA	CHRYSOPTHYTA	24920
ANACYSTIS	CYANOPHYTA	127715
DACTYLOCCOCCOPHIS	CYANOPHYTA	6230
MERISMOPEDIA	CYANOPHYTA	218050
OSCILLATORIA	CYANOPHYTA	6230
EUGLENA	EUGLENOPTHYTA	3115

13154 FRIDAY, FEBRUARY 22, 1980 41

DOT TASK 3 PHYTOPLANKTON LISTING

RIVER=TENNESSEE RIVER RIV_MILE#315.0 SAM_LOC=AR DATE=79-09-25 REP_NUM#2

TAXON	GROUP	NUM
ANKISTRODES MUS	CHLOROPHYTA	3115
CHLAMYDOMONAS	CHLOROPHYTA	1246C
CHLORELLA	CHLOROPHYTA	34265
CRUCIGENIA	CHLOROPHYTA	4984C
COLEMANIA	CHLOROPHYTA	3115
KIRCHNERIELLA	CHLOROPHYTA	2492C
ODCYSYIS	CHLOROPHYTA	623C
SCENEDES MUS	CHLOROPHYTA	59195
SCHRADERIA	CHLOROPHYTA	3115
SELENASTRUM	CHLOROPHYTA	9345
TREULARIA	CHLOROPHYTA	3115
TROCHISCIA	CHLOROPHYTA	3115
MELDSIRA	CHLOROPHYTA	54201C
STEPHANODISCUS	CHLOROPHYTA	21805
SYNEORA	CHLOROPHYTA	2492C
ANACYSTIS	CHLOROPHYTA	65415
DACTYLOCCOCCOPSIS	CYANOPHYTA	3115
OSCILLATORIA	CYANOPHYTA	3115C
OSCILLATORIA (SPIRAL)	CYANOPHYTA	3115
EUGLENA	EUGLENOPHYTA	623C
TRACHELOMONAS	EUGLENOPHYTA	3115

13154 FRIDAY, FEBRUARY 22, 1980 42

DOT TASK 5 PHYTOPLANKTON LISTING

REP_NUM=3

DATE=79-09-25

SAM_LOC=AR

RIV_MILE=315.0

RIVER=TENNESSEE RIVER

TAXON	GROUP	NUM
ANKISTRODESCHUS	CHLOROPHYTA	3115
CHLAMYDOMONAS	CHLOROPHYTA	21805
CHLORELLA	CHLOROPHYTA	15575
PEDIASTRUM	CHLOROPHYTA	3115
SCENEDESMUS	CHLOROPHYTA	105910
SCHROEDERIA	CHLOROPHYTA	3115
SELENASTRUM	CHLOROPHYTA	15575
TETRASTRUM	CHLOROPHYTA	12460
TROCHISCIA	CHLOROPHYTA	3115
MELOSIRA	CHRYSOPHYTA	582505
NAVICULA	CHRYSOPHYTA	3115
RHIZOSOLENIA	CHRYSOPHYTA	15575
STEPHANODISCUS	CHRYSOPHYTA	18690
SYNEURA	CHRYSOPHYTA	24920
ANABAENA	CYANOPHYTA	99680
ANACYSTIS	CYANOPHYTA	24920
CHROOCOCCUS	CYANOPHYTA	9345
DACTYLOCOCCOPUS	CYANOPHYTA	93450
MERISMOPEDIA	CYANOPHYTA	6230
OSCILLATORIA	CYANOPHYTA	3115
EUGLENA	EUGLENOPHYTA	3115

0155 TUESDAY, FEBRUARY 26, 1980 20

DOT TASK 3 PHYTOPLANKTON LISTING

RIVEROTENNESSEE RIVER RIV_MILE=345.2 SAM_LCC=AD DATE=79-09-27

TAXON	GROUP	MEAN
ACTINASTRUM	CHLOROPHYTA	16613
ANKISTRODESMUS	CHLOROPHYTA	4153
CHLAMYDOMONAS	CHLOROPHYTA	38418
CHLORELLA	CHLOROPHYTA	14536
CHODATELLA	CHLOROPHYTA	8306
COELASTRUM	CHLOROPHYTA	16613
CRUCIGENIA	CHLOROPHYTA	4153
DICTYOSPHAERIUM	CHLOROPHYTA	41533
FRANCEIA	CHLOROPHYTA	2076
GOLENKINIA	CHLOROPHYTA	15575
GONIUM	CHLOROPHYTA	15575
KIRCHNERIELLA	CHLOROPHYTA	14536
MICRACTINIUM	CHLOROPHYTA	11421
DOCYSTIS	CHLOROPHYTA	8306
PEDIASTRUM	CHLOROPHYTA	8306
PROTODOCUCUS	CHLOROPHYTA	186900
SCENEDESMUS	CHLOROPHYTA	79951
SCHROEDERIA	CHLOROPHYTA	1038
SELENASTRUM	CHLOROPHYTA	6230
TETRAEDRON	CHLOROPHYTA	3115
TREUBARIA	CHLOROPHYTA	2076
ACHMANTHES	CHRYSDOPHYTA	12460
ASTERIONELLA	CHRYSDOPHYTA	4153
CHAETOCEROS	CHRYSDOPHYTA	6230
HELOSIRA	CHRYSDOPHYTA	788095
NITZSCHIA	CHRYSDOPHYTA	1038
OPHIOCYTIUM	CHRYSDOPHYTA	7268
STEPHANODISCUS	CHRYSDOPHYTA	35303
SYNEDRA	CHRYSDOPHYTA	25938
ANABAENA	CYANOPHYTA	117331
ANACYSTIS	CYANOPHYTA	681146
DACTYLOCOCCOPSIIS	CYANOPHYTA	9345
LYNGBYA	CYANOPHYTA	2076
HERISHOPEIDIA	CYANOPHYTA	657265
OSCILLATORIA	CYANOPHYTA	24920
TRACHELOMONAS	EUGLENOPHYTA	1038

13154 FRIDAY, FEBRUARY 22, 1980 43

DOT TASK 5 PHYTOPLANKTON LISTING

RIVER-TENNESSEE RIVER RIV_MILE=345.2 SAM_LOC=AD DATE=79-09-27 REP_NUM=01

TAXON	GROUP	NUM
ANKISTRODESMUS	CHLOROPHYTA	3115
CHLAMYDOMONAS	CHLOROPHYTA	43610
CHLORELLA	CHLOROPHYTA	12460
CHODATELLA	CHLOROPHYTA	12460
CRUCIGENIA	CHLOROPHYTA	12460
DICTYOSPHAERIUM	CHLOROPHYTA	74760
GOLENKINIA	CHLOROPHYTA	18690
KIRCHNERIELLA	CHLOROPHYTA	21805
MICRACTINIUM	CHLOROPHYTA	6230
PEDIASTRUM	CHLOROPHYTA	24920
PROTOCOCCUS	CHLOROPHYTA	317730
SCENEDESMUS	CHLOROPHYTA	71645
SELENASTRUM	CHLOROPHYTA	18690
TETRAEDRON	CHLOROPHYTA	3115
TREUBARIA	CHLOROPHYTA	6230
ACHRANTHES	CHRYSOPHYTA	12460
ASTERIONELLA	CHRYSOPHYTA	3115
MELOSIRA	CHRYSOPHYTA	432985
OPHIOCYTIUM	CHRYSOPHYTA	9345
STEPHANODISCUS	CHRYSOPHYTA	21805
SYNEDRA	CHRYSOPHYTA	18690
ANABAENA	CYANOPHYTA	351995
ANACYSTIS	CYANOPHYTA	962535
DACTYLOCOCCOPSIS	CYANOPHYTA	12460
MERISOMEDIA	CYANOPHYTA	389375
OSCILLATORIA	CYANOPHYTA	21805
TRACHELOMONAS	EUGLENOPHYTA	3115

13154 FRIDAY, FEBRUARY 22, 1980 44

ODT TASK 5 PHYTOPLANKTON LISTING

REP_NUM=2

DATE=79-09-27

SAM_LOC=A0

RIV_MILE=345.2

RIVER=TENNESSEE RIVER

TAXON	GROUP	NUM
ACTINASTRUM	CHLOROPHYTA	24920
ANKISTRODES MUS	CHLOROPHYTA	3115
CHLAMYDOMONAS	CHLOROPHYTA	3115
CHLORELLA	CHLOROPHYTA	12460
CHODATELLA	CHLOROPHYTA	6230
GOLEKNINIA	CHLOROPHYTA	18690
KIRCHNERIELLA	CHLOROPHYTA	6230
MICRAC TINIUM	CHLOROPHYTA	15575
PROTOCOCCUS	CHLOROPHYTA	90335
SCENEDES MUS	CHLOROPHYTA	87220
SCHROEDERIA	CHLOROPHYTA	3115
ACHNANTHES	CHRYSO PHYTA	12460
ASTERIONELLA	CHRYSO PHYTA	9345
CHAETOCERUS	CHRYSO PHYTA	18690
MELOSTIRA	CHRYSO PHYTA	1389290
NITZSCHIA	CHRYSO PHYTA	3115
STEPHANODISCUS	CHRYSO PHYTA	40495
SYNEORA	CHRYSO PHYTA	40495
ANACYSTIS	CYANOPHYTA	432985
DACTYLOCOCCOPSI S	CYANOPHYTA	6230
LYNGBYA	CYANOPHYTA	3115
HERISHOPE DIA	CYANOPHYTA	585620
OSCILLATORIA	CYANOPHYTA	6230

DOT TASK 5 PHYTOPLANKTON LISTING

RIVER=TENNESSEE RIVER RIV_MILE=345.2 SAM_LOC=AD DATE=79-09-27 REP_NUM=3

13:54 FRIDAY, FEBRUARY 22, 1980 43

TAXON	GROUP	NUM
ACTINASTRUM	CHLOROPHYTA	24920
ANKISTRODESMUS	CHLOROPHYTA	6230
CHLAMYDOMONAS	CHLOROPHYTA	40495
CHLORELLA	CHLOROPHYTA	18690
CHODATELLA	CHLOROPHYTA	6230
COELASTRUM	CHLOROPHYTA	49840
DICTYOSPHAERIUM	CHLOROPHYTA	49840
FRANCEIA	CHLOROPHYTA	6230
GOLENKINIA	CHLOROPHYTA	9345
GONIUM	CHLOROPHYTA	46725
KIRCHNERIELLA	CHLOROPHYTA	15575
MICRACTINIUM	CHLOROPHYTA	12460
ODCYSTIS	CHLOROPHYTA	24920
PROTOCOCCUS	CHLOROPHYTA	152635
SCENEDESMUS	CHLOROPHYTA	80990
TETRAEDRON	CHLOROPHYTA	6230
ACHNANTHES	CHRYSOPTHYTA	12460
MELOSIRA	CHRYSOPTHYTA	542010
OPHIOCYTIUM	CHRYSOPTHYTA	12460
STEPHANODISCUS	CHRYSOPTHYTA	43610
SYNEURA	CHRYSOPTHYTA	18690
ANACYSTIS	CYANOPHYTA	647920
DACTYLOCOCCOPSIS	CYANOPHYTA	9345
LYNGBYA	CYANOPHYTA	3115
HERISHOPEDIA	CYANOPHYTA	996800
OSCILLATORIA	CYANOPHYTA	46725

DDT TASK 5 PHYTOPLANKTON LISTING

RIVEROTENNESSEE RIVER RIV_MILE#345.2 SAM_LOCBAY

DATE#79-09-27

21

TAXON	GROUP	MEAN
ACTINASTRUM	CHLOROPHYTA	16613
ANKISTRODESMUS	CHLOROPHYTA	1038
CHLAMYDOMONAS	CHLOROPHYTA	28035
CHLORELLA	CHLOROPHYTA	18690
CHODATELLA	CHLOROPHYTA	2076
COSMARUM	CHLOROPHYTA	1038
CRUCIGENIA	CHLOROPHYTA	8306
DICTYOSPHAERIUM	CHLOROPHYTA	19728
FRANCEJA	CHLOROPHYTA	2076
GOLENKINIA	CHLOROPHYTA	9345
HYALOTHECA	CHLOROPHYTA	5191
MICRACTINIUM	CHLOROPHYTA	16613
OOCYSTIS	CHLOROPHYTA	4153
PEDIASTRUM	CHLOROPHYTA	49840
PROTOCOCCUS	CHLOROPHYTA	4153
SCHEDESMUS	CHLOROPHYTA	90878
SELENASTRUM	CHLOROPHYTA	4153
TREBARRIA	CHLOROPHYTA	4153
TROCHISCIA	CHLOROPHYTA	1038
UNID GREEN #1	CHLOROPHYTA	2076
ACHNANTHES	CHRYSOPTHYTA	10383
CHAETOCEROS	CHRYSOPTHYTA	3115
MELUSIRA	CHRYSOPTHYTA	609501
NAVICULA	CHRYSOPTHYTA	2076
RHIZOLENIA	CHRYSOPTHYTA	2076
STEPHANODISCUS	CHRYSOPTHYTA	32188
SYNEDRA	CHRYSOPTHYTA	103833
ANABAENA	CYANOPHYTA	28035
ANACYSTIS	CYANOPHYTA	646881
CHROOCOCCUS	CYANOPHYTA	6230
DACTYLOCOCCOPSIS	CYANOPHYTA	12460
LYNGBYA	CYANOPHYTA	1038
HERISHOPEIDIA	CYANOPHYTA	117331
OSCELLATORIA	CYANOPHYTA	14536
CRYPTOGLENA	EUGLENOPTHYTA	1038
EUGLENA	EUGLENOPTHYTA	13498
TRACHELOMONAS	EUGLENOPTHYTA	1038
GLENODINIUM	PYRROPHYTA	2076
GYMNODINIUM	PYRROPHYTA	1038

13:54 FRIDAY, FEBRUARY 22, 1980 46

DOT TASK 5 PHYTOPLANKTON LISTING

REP_NUM=1

DATE=79-09-27

SAM_LOC=AJ

RIV_MILE=345.2

RIVER=TENNESSEE RIVER

TAXON	GROUP	NUM
ACTINASTRUM	CHLOROPHYTA	24920
ANKISTRUDESCHUS	CHLOROPHYTA	3115
CHLAMYDOMONAS	CHLOROPHYTA	28035
CHLORELLA	CHLOROPHYTA	31150
CHODATELLA	CHLOROPHYTA	3115
DICTYOSPHAERIUM	CHLOROPHYTA	59185
FRANCEIA	CHLOROPHYTA	6230
GOLENKINIA	CHLOROPHYTA	12460
HYALOTHECA	CHLOROPHYTA	3115
MICRACTINIUM	CHLOROPHYTA	18690
SCENEDESMUS	CHLOROPHYTA	59185
SELENASTRUM	CHLOROPHYTA	3115
TREUBARIA	CHLOROPHYTA	3115
UNID GREEN #1	CHLOROPHYTA	6230
ACHMANTHES	CHRYSDOPHYTA	12460
MELOSIRA	CHRYSDOPHYTA	230510
RHIZOLENIA	CHRYSDOPHYTA	3115
STEPHANODISCUS	CHRYSDOPHYTA	15575
SYNEORA	CHRYSDOPHYTA	15575
ANABAENA	CYANOPHYTA	40495
ANACYSTIS	CYANOPHYTA	451675
CHROOCOCCUS	CYANOPHYTA	12460
LYNGBYA	CYANOPHYTA	3115
MERISOMEDIA	CYANOPHYTA	311500
OSCILLATORIA	CYANOPHYTA	15575
CRYPTOGLAENA	EUGLENDOPHYTA	3115
EUGLENA	EUGLENDOPHYTA	3115
TRACHELOMONAS	EUGLENDOPHYTA	3115
GLENODINIUM	PYRROPHYTA	3115

13154 FRIDAY, FEBRUARY 22, 1980 47

DOT TASK 3 PHYTOPLANKTON LISTING

----- RIVER-TENNESSEE RIVER RIV_MILE=345.2 SAM_LOC=AJ DATE=79-C9-27 REP_NUM=2 -----

TAXON	GROUP	NUM
ACTINASTRUM	CHLOROPHYTA	12460
CHLAMYDOMONAS	CHLOROPHYTA	37380
CHLORELLA	CHLOROPHYTA	18690
CHODATELLA	CHLOROPHYTA	3115
COSMARUM	CHLOROPHYTA	3115
CRUCIGENTIA	CHLOROPHYTA	12460
GOLENKINIA	CHLOROPHYTA	15575
HYALOTHECA	CHLOROPHYTA	12450
MICRACTINIUM	CHLOROPHYTA	9345
PEDIASTRUM	CHLOROPHYTA	149520
PROTOCOCCUS	CHLOROPHYTA	12460
SCENEDESMUS	CHLOROPHYTA	74760
SELENASTRUM	CHLOROPHYTA	3115
TREUBARIA	CHLOROPHYTA	3115
TRACHISCIA	CHLOROPHYTA	3115
ACHNANTHES	CHRYSOPHYTA	15575
CHAETOCEROS	CHRYSOPHYTA	9345
MELOSIRA	CHRYSOPHYTA	931385
NAVICULA	CHRYSOPHYTA	6230
RHIZOSOLENIA	CHRYSOPHYTA	3115
STEPHANODISCUS	CHRYSOPHYTA	40495
SYNEDRA	CHRYSOPHYTA	112140
ANABAENA	CYANOPHYTA	28035
ANACYSTIS	CYANOPHYTA	703990
CHROCOCCUS	CYANOPHYTA	6230
DACTYLOCOCCOPSIS	CYANOPHYTA	28035
MERISOMEDIA	CYANOPHYTA	40495
OSCILLATORIA	CYANOPHYTA	21805
EUGLENA	EUGLENDOPHYTA	18690

DOT TASK 5 PHYTOPLANKTON LISTING
 13154 FRIDAY, FEBRUARY 22, 1980 48

REP_NUM=3

DATE=79-09-27

SAM_LOC=AJ

RIV_MILE=345.2

RIVER=TENNESSEE

TAXON	GROUP	NUM
ACTINASTRUM	CHLOROPHYTA	12460
CHLAMYDOMONAS	CHLOROPHYTA	18690
CHLORELLA	CHLOROPHYTA	6230
CRUCIGENIA	CHLOROPHYTA	12460
MICRACTINIUM	CHLOROPHYTA	21805
ODCYSTIS	CHLOROPHYTA	12460
SCENEDESMUS	CHLOROPHYTA	18690
SELENASTRUM	CHLOROPHYTA	6230
TREUBARIA	CHLOROPHYTA	6230
ACHNANTHES	CHRYSDOPHYTA	3115
MELOSIRA	CHRYSDOPHYTA	666010
STEPHANODISCUS	CHRYSDOPHYTA	40495
SYNEDRA	CHRYSDOPHYTA	183785
ANABAENA	CYANOPHYTA	15575
ANACYSTIS	CYANOPHYTA	784980
DACTYLOCOCCOPYSIS	CYANOPHYTA	9345
OSCILLATORIA	CYANOPHYTA	6230
EUGLENA	EUGLENOPHYTA	18690
GLENDONINIUM	PYRROPHYTA	3115
GYMNOINIUM	PYRROPHYTA	3115

ODT TASK 5 PHYTOPLANKTON LISTING

8155 TUESDAY, FEBRUARY 26, 1980 22

RIVER TENNESSEE RIVER RIV_MILE#345.2 SAM_LOC#AR DATE#79-09-27

TAXON	GROUP	MEAN
ACTINASTRUM	CHLOROPHYTA	8306
CHLAMYDOMONAS	CHLOROPHYTA	21805
CHLORELLA	CHLOROPHYTA	12460
CRUCIGENIA	CHLOROPHYTA	8306
DICTYOSPHAERIUM	CHLOROPHYTA	62300
FRANCEJA	CHLOROPHYTA	2076
GOLENKINIA	CHLOROPHYTA	2076
HYALOTHECA	CHLOROPHYTA	8306
DOCCYSTIS	CHLOROPHYTA	4153
PLANKTUSPHAERIA	CHLOROPHYTA	8306
POLYEDRIOPSIS	CHLOROPHYTA	1038
PROTOCOCCUS	CHLOROPHYTA	28035
PIEROMONAS	CHLOROPHYTA	1038
SCENEDESMUS	CHLOROPHYTA	22843
SCHROEDERIA	CHLOROPHYTA	2076
ACHNANTHES	CHRYSOPHYTA	8306
CYCLOTELLA	CHRYSOPHYTA	1038
CYBELL	CHRYSOPHYTA	1038
MELOSIRA	CHRYSOPHYTA	210781
NAVICULA	CHRYSOPHYTA	1038
NITZSCHIA	CHRYSOPHYTA	1038
STAURONEIS	CHRYSOPHYTA	1038
STEPHANODISCUS	CHRYSOPHYTA	17651
SYNEDRA	CHRYSOPHYTA	26996
ANABAENA	CYANOPHYTA	48801
ANACYSTIS	CYANOPHYTA	194168
CHROCOCCUS	CYANOPHYTA	33226
DACYLOCOCCOPSIS	CYANOPHYTA	3115
HERISHOPEDIA	CYANOPHYTA	294886
OSCILLATORIA	CYANOPHYTA	7268
CRYPTOGLA	EUGLENOPHYTA	1038

DOT TASK 5 PHYTOPLANKTON LISTING

13154 FRIDAY, FEBRUARY 22, 1980 49

RIVER=TENNESSEE RIVER RIV_MILE=345.2 SAM_LOC=AR DATE=79-09-27 REP_NUM=1

TAXON	GROUP	NUM
ACTINASTRUM	CHLOROPHYTA	24920
CHLAMYDOMONAS	CHLOROPHYTA	9345
CHLORELLA	CHLOROPHYTA	15575
DICTYOSPHAERIUM	CHLOROPHYTA	137060
GOLENKINIA	CHLOROPHYTA	3115
POLYEDRIOPSIS	CHLOROPHYTA	3115
PROTOCOCCUS	CHLOROPHYTA	84105
PTEROMONAS	CHLOROPHYTA	3115
SCENEDESMUS	CHLOROPHYTA	15575
ACMANTHES	CHRYSOPHYTA	6230
MELOSIRA	CHRYSOPHYTA	183785
STEPHANODISCUS	CHRYSOPHYTA	24920
SYNEDRA	CHRYSOPHYTA	24920
ANACYSTIS	CYANOPHYTA	193130
DACTYLOCOCCOPSIS	CYANOPHYTA	3115
MERISOMPEIDIA	CYANOPHYTA	74760
OSCELLATORIA	CYANOPHYTA	3115

DOT TASK 5 PHYTOPLANKTON LISTING

RIVER TENNESSEE RIVER RIV_MILE=345.2 SAM_LOC=AR DATE=79-C9-27 REP_NUM=2

13154 FRIDAY, FEBRUARY 22, 1980 50

TAXON	GROUP	NUM
CHLAMYDOMONAS	CHLOROPHYTA	24920
CHLORELLA	CHLOROPHYTA	6230
CRUCIGENIA	CHLOROPHYTA	12460
DICTYOSPHAERIUM	CHLOROPHYTA	49840
FRANCEIA	CHLOROPHYTA	3115
GOLENKINIA	CHLOROPHYTA	3115
SCENEDESMUS	CHLOROPHYTA	31150
SCHROEDERIA	CHLOROPHYTA	3115
ACHNANTHES	CHRYSOPTHYTA	18690
CYCLOTELLA	CHRYSOPTHYTA	3115
HELOSIRA	CHRYSOPTHYTA	168210
NAVICULA	CHRYSOPTHYTA	3115
NITZSCHIA	CHRYSOPTHYTA	3115
STAUROMETIS	CHRYSOPTHYTA	3115
STEPHANODISCUS	CHRYSOPTHYTA	18690
SYNEDRA	CHRYSOPTHYTA	9345
ANABAENA	CYANOPHYTA	71645
ANACYSTIS	CYANOPHYTA	166405
HERISHOPEIDIA	CYANOPHYTA	12460
OSCILLATORIA	CYANOPHYTA	15575

13154 FRIDAY, FEBRUARY 22, 1980 51

DDT TASK 5 PHYTOPLANKTON LISTING RIV_MILE#345.2 SAM_LOC#AR DATE#79-09-27 REP_NUM#3

TAXON	GROUP	NUM
CHLAMYDOMONAS	CHLOROPHYTA	31150
CHLORELLA	CHLOROPHYTA	15575
CRUCIGENIA	CHLOROPHYTA	12460
FRANCEIA	CHLOROPHYTA	3115
HYALOTHECA	CHLOROPHYTA	24920
DOCCYSTIS	CHLOROPHYTA	12460
PLANKTOSPHAERIA	CHLOROPHYTA	24920
SCENEDESMUS	CHLOROPHYTA	21805
SCHROEDERIA	CHLOROPHYTA	3115
CYMBELLA	CHRYSOPHYTA	3115
MELOSIRA	CHRYSOPHYTA	200350
STEPHANODISCUS	CHRYSOPHYTA	9345
SYNEDRA	CHRYSOPHYTA	46725
ANABAENA	CYANOPHYTA	74760
ANACYSTIS	CYANOPHYTA	242970
CHROOCOCCUS	CYANOPHYTA	99680
DACTYLOCOCCOPSIS	CYANOPHYTA	6230
HERISHOPEIDIA	CYANOPHYTA	797440
OSCILLATORIA	CYANOPHYTA	3115
CRYPTODGLENA	EUGLENOPHYTA	3115

DOT TASK 9 PHYTOPLANKTON LISTING

8155 TUESDAY, FEBRUARY 26, 1980 23

RIVER TENNESSEE RIVER RIV_MILE=350.0 SAM_LOC=AE DATE=79-09-25

TAXON	GROUP	MEAN
ACTINASTRUM	CHLOROPHYTA	14536
AKISTHODESMUS	CHLOROPHYTA	7268
CHLAMYDOMONAS	CHLOROPHYTA	88258
CHLORELLA	CHLOROPHYTA	19728
CHLOROCONIUM	CHLOROPHYTA	1038
CHODATELLA	CHLOROPHYTA	4153
COELASTRUM	CHLOROPHYTA	12460
COSSHARIUM	CHLOROPHYTA	1038
CRUCIGENIA	CHLOROPHYTA	29073
DICTYOSPHAERIUM	CHLOROPHYTA	86181
FRANCEIA	CHLOROPHYTA	1038
GOLEKINIA	CHLOROPHYTA	20766
HYALOTHECA	CHLOROPHYTA	33226
KIRCHNERIELLA	CHLOROPHYTA	65415
MICRACTINIUM	CHLOROPHYTA	18690
DOCYSTIS	CHLOROPHYTA	19728
PEDIASTRUM	CHLOROPHYTA	3115
PROTOCOCCUS	CHLOROPHYTA	104871
PTEROMONAS	CHLOROPHYTA	3115
SCENEDESMUS	CHLOROPHYTA	140175
SCHROEDERIA	CHLOROPHYTA	2076
SELENASTRUM	CHLOROPHYTA	2076
STAUASTRUM	CHLOROPHYTA	3115
TETRAEDRON	CHLOROPHYTA	5191
TETRASTRUM	CHLOROPHYTA	4193
TREUBARIA	CHLOROPHYTA	1038
TRICHISCIA	CHLOROPHYTA	2076
UNID GREEN # 2	CHLOROPHYTA	80990
ACHNATHES	CHRYSPHYTA	11421
CHAETOCEROS	CHRYSPHYTA	6230
COCCONEIS	CHRYSPHYTA	1038
DINOBRYON	CHRYSPHYTA	3115
GOMPHONEMA	CHRYSPHYTA	3115
MELOSIRA	CHRYSPHYTA	575236
RHIZOLENIA	CHRYSPHYTA	5191
RHOICOSPHEMIA	CHRYSPHYTA	1038
STEPHANODISCUS	CHRYSPHYTA	50878
SYNEORA	CHRYSPHYTA	42571
CRYPTOMONAS	CRYPTOPHYTA	1038
ANABAENA	CYANOPHYTA	119408
ANACYSTIS	CYANOPHYTA	2271873
APHANOCAPSA	CYANOPHYTA	6230
CHROCOCCUS	CYANOPHYTA	51916
DACTYLOCOCCOPHIS	CYANOPHYTA	33226
LYNGBYA	CYANOPHYTA	3115
MERISMOPEDIA	CYANOPHYTA	614693
OSCILLATORIA	CYANOPHYTA	33226
OSCILLATORIA (SPIRAL)	CYANOPHYTA	1038
CRYPTOCLENA	EUGLENOPHYTA	4193
EUGLENA	EUGLENOPHYTA	3115

DOT TASK 5 PHYTOPLANKTON LISTING

13:54 FRIDAY, FEBRUARY 22, 1980 52

RIVER=TENNESSEE RIVER RIV_MILE=350.0 SAM_LOC=AE DATE=79-09-25 REP_NUM=1

TAXON	GROUP	NUM
ACTINASTRUM	CHLOROPHYTA	12460
ANKISTRODESMUS	CHLOROPHYTA	12460
CHLAMYDOMONAS	CHLOROPHYTA	80990
CHLORELLA	CHLOROPHYTA	6230
CHODATELLA	CHLOROPHYTA	3115
COELASTRUM	CHLOROPHYTA	24920
CRUCIGENIA	CHLOROPHYTA	62300
DICTYOSPHAERIUM	CHLOROPHYTA	87220
GOLENKINIA	CHLOROPHYTA	21805
HYALOTHECA	CHLOROPHYTA	74760
KIRCHNERIELLA	CHLOROPHYTA	68530
OOCYSTIS	CHLOROPHYTA	37380
PTEROMONAS	CHLOROPHYTA	3115
SCENEDESMUS	CHLOROPHYTA	149520
SCHROEDERIA	CHLOROPHYTA	6230
STAUASTRUM	CHLOROPHYTA	3115
ACHNANTHES	CHRYSDOPHYTA	9345
COCCONEIS	CHRYSDOPHYTA	3115
MELDISIRA	CHRYSDOPHYTA	482825
RHIZOSOLENIA	CHRYSDOPHYTA	3115
STEPHANODISCUS	CHRYSDOPHYTA	34265
SYNEURA	CHRYSDOPHYTA	24920
CRYPTOMONAS	CRYPTOPHYTA	3115
ANABAENA	CYANOPHYTA	152635
ANACYSTIS	CYANOPHYTA	1626030
CHROCOCCUS	CYANOPHYTA	99680
DACTYLOCOCCOPSIS	CYANOPHYTA	28035
MERISOMEDIA	CYANOPHYTA	99680
OSCILLATORIA	CYANOPHYTA	34265
CRYPTOCLENA	EUGLENDOPHYTA	6230

13154 FRIDAY, FEBRUARY 22, 1980 54

DOT TASK 5 PHYTOPLANKTON LISTING

RIVER=TENNESSEE RIVER RIV_MILE=350.0 SAM_LOC=AE DATE=79-09-25 REP_NUM=3

TAXON	GROUP	NUM
ACTINASTRUM	CHLOROPHYTA	31150
ANKISTRODESMUS	CHLOROPHYTA	3115
CHLAMYDOMONAS	CHLOROPHYTA	105910
CHLORELLA	CHLOROPHYTA	12460
CHLOROCONIUM	CHLOROPHYTA	3115
COSMARIUM	CHLOROPHYTA	3115
CRUCIGENIA	CHLOROPHYTA	24920
DICTYOSPHAERIUM	CHLOROPHYTA	124600
GOLENKINIA	CHLOROPHYTA	21805
HYALOTHECA	CHLOROPHYTA	24920
KIRCHNERIELLA	CHLOROPHYTA	80990
MICRACTINIUM	CHLOROPHYTA	18690
ODCYSTIS	CHLOROPHYTA	6230
PEDIASTRUM	CHLOROPHYTA	9345
PROTOCOCCUS	CHLOROPHYTA	190015
SCENEDESMUS	CHLOROPHYTA	112140
SELENASTRUM	CHLOROPHYTA	3115
STAUASTRUM	CHLOROPHYTA	3115
TETRAEDRON	CHLOROPHYTA	9345
TREUBARIA	CHLOROPHYTA	3115
TROCHISCA	CHLOROPHYTA	6230
UNIT GREEN # 2	CHLOROPHYTA	242970
ACHNANTHES	CHRYSOPTHYTA	9345
DINORRYON	CHRYSOPTHYTA	9345
GOMPHONEMA	CHRYSOPTHYTA	3115
HELOSIRA	CHRYSOPTHYTA	520205
STEPHANODISCUS	CHRYSOPTHYTA	49840
SYNEDRA	CHRYSOPTHYTA	59185
ANARAENA	CYANOPHYTA	118370
ANACYSTIS	CYANOPHYTA	2931215
APHANOCAPSA	CYANOPHYTA	18690
CHRODOCCUS	CYANOPHYTA	56070
DACTYLOCCOCCOPSIS	CYANOPHYTA	34265
LYNCBYA	CYANOPHYTA	6230
HERISHOPIEDIA	CYANOPHYTA	822360
OSCILLATORIA	CYANOPHYTA	24920
CRYPTOGLAENA	EUGLENOPTHYTA	3115
EUGLENA	EUGLENOPTHYTA	6230

RIVER TENNESSEE RIVER RIV_MILE=350.0 SAM_LOC=J DATE=79-09-25

TAXON	GROUP	MEAN
ACINASTRUM	CHLOROPHYTA	29073
ANKISTODESMUS	CHLOROPHYTA	2076
BRACEACOCCLUS	CHLOROPHYTA	3115
CHLAMYDOMONAS	CHLOROPHYTA	74760
CHLORELLA	CHLOROPHYTA	15575
CHODATELLA	CHLOROPHYTA	5191
CLOSTERIOPSIS	CHLOROPHYTA	1038
COELASTRUM	CHLOROPHYTA	8306
COSMARUM	CHLOROPHYTA	2076
CROCIGENIA	CHLOROPHYTA	47763
DICTYOSPHAERIUM	CHLOROPHYTA	29073
EUDORINA	CHLOROPHYTA	9345
FRANCEIA	CHLOROPHYTA	2076
GLUEDACTINIUM	CHLOROPHYTA	24920
GULENKINIA	CHLOROPHYTA	18690
HYALOTHECA	CHLOROPHYTA	20766
KIRCHNERIELLA	CHLOROPHYTA	50878
MICRACTINIUM	CHLOROPHYTA	2076
DOCYSTIS	CHLOROPHYTA	9345
PANORINA	CHLOROPHYTA	16613
PEDIASTRUM	CHLOROPHYTA	8306
PROTOCOCCLUS	CHLOROPHYTA	91373
PTEROMONAS	CHLOROPHYTA	1038
QUADRIGULA	CHLOROPHYTA	6230
SCNEDESMUS	CHLOROPHYTA	116293
SCHROEDERIA	CHLOROPHYTA	1038
SELENASTRUM	CHLOROPHYTA	1038
TETRAEDRON	CHLOROPHYTA	5191
TREUBARIA	CHLOROPHYTA	1038
TROCHISCIA	CHLOROPHYTA	1038
UNID GREEN #1	CHLOROPHYTA	1038
ACHNANTHES	CHRYSOPTHYTA	3115
ATTHEYA	CHRYSOPTHYTA	1038
COCONEIS	CHRYSOPTHYTA	1038
DIMOBRYON	CHRYSOPTHYTA	2076
MELOSIRA	CHRYSOPTHYTA	414295
NAVICULA	CHRYSOPTHYTA	3115
RHIZOLENIA	CHRYSOPTHYTA	2076
STEPHANODISCUS	CHRYSOPTHYTA	29073
SYNEORA	CHRYSOPTHYTA	16613
CRYPTOMONAS	CHRYSOPTHYTA	4153
ANABAENA	CYANDOPHYTA	57108
ANACYSTIS	CYANDOPHYTA	901273
CHROOCOCCLUS	CYANDOPHYTA	53993
DACTYLOCOCCOPSIS	CYANDOPHYTA	18690
LYNGBYA	CYANDOPHYTA	2076
MERISMOPEDIA	CYANDOPHYTA	696721
OSCILLATORIA	CYANDOPHYTA	25958
CRYPTOGLENA	EUGLENOPHYTA	1038
EUGLENA	EUGLENOPHYTA	2076

13:54 FRIDAY, FEBRUARY 22, 1980 55

DOT TASK 5 PHYTOPLANKTON LISTING

REP_NUM=1

DATE=79-09-25

SAM_LOC=AJ

RIV_MILE=350.0

RIVER=TENNESSEE RIVER

TAXON

GROUP

NUM

ACTINASTRUM	CHLOROPHYTA	28035
CHLAMYDOMONAS	CHLOROPHYTA	85415
CHLORELLA	CHLOROPHYTA	31150
CHODATELLA	CHLOROPHYTA	3115
CLUSTERIOPSIS	CHLOROPHYTA	3115
COELASTRUM	CHLOROPHYTA	24920
CRUCIGENIA	CHLOROPHYTA	37380
DICTYOSPHAERIUM	CHLOROPHYTA	74760
FRANCEIA	CHLOROPHYTA	3115
GLOEDACTINIUM	CHLOROPHYTA	74760
GOLENKHIIA	CHLOROPHYTA	15575
HYALOTHECA	CHLOROPHYTA	24920
KIRCHNERIELLA	CHLOROPHYTA	46725
ODCYSTIS	CHLOROPHYTA	21805
PEDIASTRUM	CHLOROPHYTA	24920
PROTOCOCCLUS	CHLOROPHYTA	34265
PTEROMONAS	CHLOROPHYTA	3115
QUADRIGULA	CHLOROPHYTA	18690
SCENEDESMUS	CHLOROPHYTA	49840
SELENASTRUM	CHLOROPHYTA	3115
TETRAEDRON	CHLOROPHYTA	3115
DINOBRYON	CHRYSDOPHYTA	3115
MELOSIRA	CHRYSDOPHYTA	359110
NAVICULA	CHRYSDOPHYTA	3115
STEPHANODISCUS	CHRYSDOPHYTA	34265
ANACYSTIS	CYANOPHYTA	940730
DACTYLOCCOCCOPSIS	CYANOPHYTA	18690
LYNGBYA	CYANOPHYTA	3115
MERISMOPEDIA	CYANOPHYTA	535780
OSCILLATORIA	CYANOPHYTA	21805
CRYPTOCLENA	EUGLENOPHYTA	3115
EUGLENA	EUGLENOPHYTA	6230

13154 FRIDAY, FEBRUARY 22, 1980 56

DOT TASK 5 PHYTOPLANKTON LISTING

----- RIVER TENNESSEE RIVER RIV_MILE=250.0 SAM_LOC=4J DATE=79-09-25 REP_NUM=2 -----

TAXON	GROUP	NUM
ACTINASTRUM	CHLOROPHYTA	49840
ANKISTRODESCHUS	CHLOROPHYTA	3115
BRACTEACOCCLUS	CHLOROPHYTA	3115
CHLAMYDOMONAS	CHLOROPHYTA	71645
CHLORELLA	CHLOROPHYTA	6230
CHODATELLA	CHLOROPHYTA	9345
COSMARUM	CHLOROPHYTA	6230
CRUCIGENIA	CHLOROPHYTA	80990
DICTYOSPHAERIUM	CHLOROPHYTA	12460
EUDORINA	CHLOROPHYTA	3115
GOLENKINIA	CHLOROPHYTA	21805
HYALOTHECA	CHLOROPHYTA	12460
KIRCHNERIELLA	CHLOROPHYTA	71645
PROTOCOCCUS	CHLOROPHYTA	199360
SCENEDESCHUS	CHLOROPHYTA	161980
SCARDEDERIA	CHLOROPHYTA	3115
TETRAEDRON	CHLOROPHYTA	6230
TROCHISCIA	CHLOROPHYTA	3115
UNIT GREEN #1	CHLOROPHYTA	3115
ACHNANTHES	CHRYSDOPHYTA	6230
COCONEIS	CHRYSDOPHYTA	3115
DINOBRYON	CHRYSDOPHYTA	3115
MELOSIRA	CHRYSDOPHYTA	398720
NAVICULA	CHRYSDOPHYTA	3115
RHIZOLENIA	CHRYSDOPHYTA	3115
STEPHANODISCUS	CHRYSDOPHYTA	21805
SYNEDRA	CHRYSDOPHYTA	15575
ANABAENA	CYANOPHYTA	171325
ANACYSTIS	CYANOPHYTA	834820
CHROCOCCUS	CYANOPHYTA	56070
DACTYLOCOCCOPSIS	CYANOPHYTA	21805
HERISHUPEDIA	CYANOPHYTA	1267805
OSCILLATORIA	CYANOPHYTA	28035

13154 FRIDAY, FEBRUARY 22, 1980 57

DOT TASK 5 PHYTOPLANKTON LISTING

REP_NUM=3

DATE=79-09-25

SAP_LCC=AJ

RIV_MILE=330.0

RIVER=TENNESSEE RIVER

TAXON	GROUP	NUM
ACTINASTRUM	CHLOROPHYTA	9345
ANKISTRUDESCHUS	CHLOROPHYTA	3115
BRACTEACOCCLUS	CHLOROPHYTA	6230
CHLAMYDOMONAS	CHLOROPHYTA	87220
CHLORELLA	CHLOROPHYTA	9345
CHODATELLA	CHLOROPHYTA	3115
CRUCIGENIA	CHLOROPHYTA	24920
EUDORINA	CHLOROPHYTA	24920
FRANCEIA	CHLOROPHYTA	3115
GOLENKINIA	CHLOROPHYTA	18690
HYALOTHECA	CHLOROPHYTA	24920
KIRCHERIELLA	CHLOROPHYTA	34265
MICRACTINIUM	CHLOROPHYTA	6230
ODCYSTIS	CHLOROPHYTA	6230
PANDORINA	CHLOROPHYTA	49840
PROTOCOCCLUS	CHLOROPHYTA	40495
SCENEDESCHUS	CHLOROPHYTA	137060
TETRAEDRON	CHLOROPHYTA	6230
TREUBARIA	CHLOROPHYTA	3115
ACHNANTHES	CHRYSOPTHYTA	3115
ATHEYA	CHRYSOPTHYTA	3115
MELOSIRA	CHRYSOPTHYTA	489055
NAVICULA	CHRYSOPTHYTA	3115
RHIZOLENIA	CHRYSOPTHYTA	3115
STEPHANODISCUS	CHRYSOPTHYTA	31150
SYNEDRA	CHRYSOPTHYTA	34265
CRYPTOMONAS	CRYPTOPHYTA	12460
ANACYSTIS	CYANOPHYTA	928270
CHROCOCCUS	CYANOPHYTA	105910
DACTYLOCOCCOPSPIS	CYANOPHYTA	15575
LYNGBYA	CYANOPHYTA	3115
MERISMOPEDIA	CYANOPHYTA	286580
OSCELLATORIA	CYANOPHYTA	28035

007 TASK 5 PHYTOPLANKTON LISTING

RIVER TENNESSEE RIVER RIV_MILE=352.0 SAM_LOC=AC

DATE=79-09-27

0155 TUESDAY, FEBRUARY 20, 1960 29

TAXON	GROUP	MEAN
ACTINASTRUM	CHLOROPHYTA	18490
CHLAMYDOMONAS	CHLOROPHYTA	77875
CHLORELLA	CHLOROPHYTA	7268
CHODATELLA	CHLOROPHYTA	4153
CLOSTERIDIUM	CHLOROPHYTA	1038
COSMARION	CHLOROPHYTA	1038
CROCODONTIA	CHLOROPHYTA	8306
DICTYOSPHAERIUM	CHLOROPHYTA	109025
FRANCEIA	CHLOROPHYTA	1038
GOLEKINIA	CHLOROPHYTA	10613
HYALOTHECA	CHLOROPHYTA	28035
KUTCHERIELLA	CHLOROPHYTA	31150
COCCYSTIS	CHLOROPHYTA	3115
PLANKTOSPHAERIA	CHLOROPHYTA	29073
PROTOCOCCUS	CHLOROPHYTA	97603
PTEROMPHAS	CHLOROPHYTA	1038
SCADRIGULA	CHLOROPHYTA	1038
SCENEDESMUS	CHLOROPHYTA	43610
SCARDEERIA	CHLOROPHYTA	2076
SELENASTRUM	CHLOROPHYTA	311
STARASTRUM	CHLOROPHYTA	2076
TETRAEDRON	CHLOROPHYTA	2076
TETRASTRUM	CHLOROPHYTA	4153
TREUBARIA	CHLOROPHYTA	1038
TROCHISCIA	CHLOROPHYTA	3115
UNIT GREEN #1	CHLOROPHYTA	2076
ACHANATHES	CHRYSOPIHYTA	25958
CHAETOCEROS	CHRYSOPIHYTA	8306
COCCONEIS	CHRYSOPIHYTA	3115
DICHBRYON	CHRYSOPIHYTA	1038
FRAGILARIA	CHRYSOPIHYTA	1038
GOMPHOREMA	CHRYSOPIHYTA	1038
MELOSIRA	CHRYSOPIHYTA	463096
NAVICULA	CHRYSOPIHYTA	1038
NITZSCHIA	CHRYSOPIHYTA	1038
RHIZOSOLENIA	CHRYSOPIHYTA	3115
STEPHANODISCUS	CHRYSOPIHYTA	45686
SYNEDRA	CHRYSOPIHYTA	40495
ANABAENA	CYANOPHYTA	142251
ANACYSTIS	CYANOPHYTA	1407980
CHROCOCCOCUS	CYANOPHYTA	25958
DACTYLOCOCCOPUSIS	CYANOPHYTA	8306
LYNGBYA	CYANOPHYTA	1038
MERISMOPEDIA	CYANOPHYTA	680108
OSCILLATORIA	CYANOPHYTA	15575
CRYPTOGLAENA	EUCLENOPIHYTA	3115
EUGLENA	EUCLENOPIHYTA	2076

DOT TASK 5 PHYTOPLANKTON LISTING

13154 FRIDAY, FEBRUARY 22, 1980 58

----- RIVER-TENNESSEE RIVER RIV_MILE=350.0 SAM_LOC=AC DATE=79-09-27 REP_NUM=1 -----

TAXON	GROUP	NUM
CHLAMYDOMONAS	CHLOROPHYTA	74760
CHLORELLA	CHLOROPHYTA	9345
COSMARUM	CHLOROPHYTA	3115
CRUCIGERIA	CHLOROPHYTA	12460
DICTYOSPHAERIUM	CHLOROPHYTA	40495
FRANCEIA	CHLOROPHYTA	3115
GOLENKINIA	CHLOROPHYTA	21805
HYALOTHECA	CHLOROPHYTA	12460
KIRCHNERIELLA	CHLOROPHYTA	59185
OCYSTIS	CHLOROPHYTA	3115
PLANKTOSPHAERIA	CHLOROPHYTA	87220
PROTODUCUS	CHLOROPHYTA	183785
PTERODONAS	CHLOROPHYTA	3115
SCENEDESMUS	CHLOROPHYTA	24920
STELAEASTRUM	CHLOROPHYTA	6230
TETRAEDRON	CHLOROPHYTA	6230
UNIC GREEN #1	CHLOROPHYTA	3115
ACHNANTHES	CHRYSOPTHYTA	37360
CHAETOCERUS	CHRYSOPTHYTA	24920
COCCHREIS	CHRYSOPTHYTA	3115
DINOBRYON	CHRYSOPTHYTA	3115
FRAGILARIA	CHRYSOPTHYTA	3115
GOMPHONEMA	CHRYSOPTHYTA	3115
HELOSIRA	CHRYSOPTHYTA	420525
NAVICULA	CHRYSOPTHYTA	3115
NITZSCHIA	CHRYSOPTHYTA	3115
RHIZOLENIA	CHRYSOPTHYTA	3115
STEPHANODISCUS	CHRYSOPTHYTA	52955
SYNEORA	CHRYSOPTHYTA	34265
ANARAENA	CYANOPHYTA	140175
ANACYSTIS	CYANOPHYTA	1713250
CHROOCOCCLUS	CYANOPHYTA	28035
DACYLOCCOCOPSIS	CYANOPHYTA	6230
MERISOMPEIDIA	CYANOPHYTA	669725
OSCILLATORIA	CYANOPHYTA	12460

13:54 FRIDAY, FEBRUARY 22, 1980 59

PHYTOPLANKTON LISTING

REP_NUM=2

DATE=19-09-27

SEA_LOC=AG

RIV_MILE=350.0

RIVER=TENNESSEE RIVER

GENUS	GROUP	NUM
CHLAMYDOMONAS	CHLOROPHYTA	90335
CHLORELLA	CHLOROPHYTA	3115
CHODATELLA	CHLOROPHYTA	9345
CLOSTERIDIUM	CHLOROPHYTA	3115
DICTYOSPHAERIUM	CHLOROPHYTA	152635
GOLENKINIA	CHLOROPHYTA	9345
HYALOTHECA	CHLOROPHYTA	62300
KIRCHNERIELLA	CHLOROPHYTA	6230
PROTODUCUS	CHLOROPHYTA	50070
SCENEDESMUS	CHLOROPHYTA	62300
SCHROEDERIA	CHLOROPHYTA	3115
SELENASTRUM	CHLOROPHYTA	3115
ACHVANTHES	CHRYSDOPHYTA	15575
COCODNEIS	CHRYSDOPHYTA	6230
MELOSIRA	CHRYSDOPHYTA	601195
RHIZOSOLENIA	CHRYSDOPHYTA	3115
STEPHANODISCUS	CHRYSDOPHYTA	40495
SYNEDRA	CHRYSDOPHYTA	62300
ANARAENA	CYANOPHYTA	168210
ARACYSTIS	CYANOPHYTA	747600
CHROCOCCUS	CYANOPHYTA	49840
DACTYLOCOCCOPUS	CYANOPHYTA	6230
LYNGBYA	CYANOPHYTA	3115
HERISHOPIA	CYANOPHYTA	1342680
OSCILLATORIA	CYANOPHYTA	28035
CRYPTOGLENA	EUGLENOPHYTA	6230

13:54 FRIDAY, FEBRUARY 22, 1980 58

DDT TASK 5 PHYTOPLANKTON LISTING

DATE=79-09-27

REP_NUM=1

RIVER=TENNESSEE RIVER RIV_MILE=350.0

SAM_LOC=AQ

TAXON	GROUP	NUM
CHLAMYDOMONAS	CHLOROPHYTA	74760
CHLORELLA	CHLOROPHYTA	9345
COSMARUM	CHLOROPHYTA	3115
CRUCIGENIA	CHLOROPHYTA	12460
DICTYOSPHAERIUM	CHLOROPHYTA	40495
FRANCEIA	CHLOROPHYTA	3115
GOLEKINIA	CHLOROPHYTA	21805
HYALOTHECA	CHLOROPHYTA	12460
KIRCHNERIELLA	CHLOROPHYTA	59185
DOCYSTIS	CHLOROPHYTA	3115
PLANKTOSPHAERIA	CHLOROPHYTA	87220
PACTOCOCCLUS	CHLOROPHYTA	183785
PTEROMONAS	CHLOROPHYTA	3115
SCENEDESMUS	CHLOROPHYTA	24920
STALARASTRUM	CHLOROPHYTA	6230
TETRAEDRON	CHLOROPHYTA	6230
UNIC GREEN #1	CHLOROPHYTA	3115
ACHAETHES	CHRYSDOPHYTA	37380
CHAETOCEROS	CHRYSDOPHYTA	24920
COCCONEIS	CHRYSDOPHYTA	3115
DINOBRYON	CHRYSDOPHYTA	3115
FRAGILARIA	CHRYSDOPHYTA	3115
GOMPHONEMA	CHRYSDOPHYTA	3115
HELOSIRA	CHRYSDOPHYTA	420525
NAVICULA	CHRYSDOPHYTA	3115
NITZSCHIA	CHRYSDOPHYTA	3115
RHIZOLENIA	CHRYSDOPHYTA	3115
STEPHANODISCUS	CHRYSDOPHYTA	52955
SYNEDRA	CHRYSDOPHYTA	34265
ANABAENA	CYANOPHYTA	140175
ANACYSTIS	CYANOPHYTA	1713250
CHROOCOCCUS	CYANOPHYTA	28035
DACTYLOCOCCOPSIS	CYANOPHYTA	6230
HERISPEDIA	CYANOPHYTA	669725
OSCILLATORIA	CYANOPHYTA	12460

13:54 FRIDAY, FEBRUARY 22, 1980 59

PHYTOPLANKTON LISTING

REP_NUM=2

DATE=79-09-27

SAM_LOC=4C

RIV_MILE=350.0

RIVER=TENNESSEE RIVER

TAXON	GROUP	NUM
CHLAMYDOMONAS	CHLOROPHYTA	90335
CHLORELLA	CHLOROPHYTA	3115
CHODATELLA	CHLOROPHYTA	9345
CLOSTERIDIUM	CHLOROPHYTA	3115
DICTYOSPHAERIUM	CHLOROPHYTA	192635
GOLENKINIA	CHLOROPHYTA	9345
HYALOTHECA	CHLOROPHYTA	62300
KIRCHNERIELLA	CHLOROPHYTA	6230
PROTOCOCCUS	CHLOROPHYTA	56070
SCENEDES-MUS	CHLOROPHYTA	62300
SCHROEDERIA	CHLOROPHYTA	3115
SELENASTRUM	CHLOROPHYTA	3115
ACHNANTHES	CHRYSOCHRYTA	15575
COCOCREIS	CHRYSOCHRYTA	6230
MELOSIRA	CHRYSOCHRYTA	601195
RHIZOLENIA	CHRYSOCHRYTA	3115
STEPHANODISCUS	CHRYSOCHRYTA	40495
SYNEDRA	CHRYSOCHRYTA	62300
ANARAENA	CYANOPHYTA	168210
ANACYSTIS	CYANOPHYTA	747600
CHROOCOCCUS	CYANOPHYTA	49840
DACTYLOCOCCOPUS	CYANOPHYTA	6230
LYNGBYA	CYANOPHYTA	3115
MERISMOPEDIA	CYANOPHYTA	1345680
OSCILLATORIA	CYANOPHYTA	28035
CRYPTOGLAENA	EUGLENOCHRYTA	6230

DOT TASK 5 PHYTOPLANKTON LISTING 13154 FRIDAY, FEBRUARY 22, 1980 60
 RIVER-TENNESSEE RIVER RIV_MILE#350.0 SAM_LOC#AD DATE#79-09-27 REP_NUM#3

TAXON	GROUP	NUM
ACTINASTRUM	CHLOROPHYTA	56070
CHLAMYDOMONAS	CHLOROPHYTA	68530
CHLORELLA	CHLOROPHYTA	9345
CHODATELLA	CHLOROPHYTA	3115
CRUCIGENIA	CHLOROPHYTA	12460
DICTYOSPHAERIUM	CHLOROPHYTA	133945
GOLENKINIA	CHLOROPHYTA	18690
HYALOTHECA	CHLOROPHYTA	9345
KIRCHNERIELLA	CHLOROPHYTA	28035
ODCYSTIS	CHLOROPHYTA	6230
PROTOCOCCUS	CHLOROPHYTA	52955
QUADRIGULA	CHLOROPHYTA	3115
SCENEDESMUS	CHLOROPHYTA	43610
SCHROEDERIA	CHLOROPHYTA	3115
SELENASTRUM	CHLOROPHYTA	6230
TETRASTRUM	CHLOROPHYTA	12460
TREUBARIA	CHLOROPHYTA	3115
TROCHISCIA	CHLOROPHYTA	9345
UNID GREEN #1	CHLOROPHYTA	3115
ACHNANTHES	CHRYSOPTHYTA	24920
HELDISIA	CHRYSOPTHYTA	367570
RHIZOSOLENIA	CHRYSOPTHYTA	3115
STEPHANODISCUS	CHRYSOPTHYTA	43610
SYNEURA	CHRYSOPTHYTA	24920
ANABAENA	CYANOPHYTA	118370
ANACYSTIS	CYANOPHYTA	1763090
DACTYLOCOCCOPSI	CYANOPHYTA	12460
MERISMOPEDIA	CYANOPHYTA	24920
OSCILLATORIA	CYANOPHYTA	6230
CRYPTOGLENA	EUGLENOPTHYTA	3115
EUGLENA	EUGLENOPTHYTA	6230

Table 5-8A

OCCURRENCE AND ABUNDANCE OF ZOOPLANKTON TAXA IN SAMPLES COLLECTED
DURING LATE SUMMER/EARLY FALL

	TRM 350.0			TRM 345.2			HS5.9 no/m ³	HS5.37 no/100	HS2.4 no/m ³	HS1.3 no/m ³	BF1.2 no/100	IC4.0 no/100	ICM0.0 no/m ³
	L	M	R	L	M	R							
Rotifera													
<i>Asplanchna herricki</i>	2,698	1,735	586	1,325	742	467	-	-	-	-	15,400	783	25
<i>A. amphora</i>	-	-	-	-	-	-	26	88	35	72	7,117	150	-
<i>Bdelloidea</i> sp.	-	-	-	-	-	-	44	133	286	416	117	-	-
<i>Beauchampella</i> sp.	-	-	-	-	-	-	26	92	7	-	-	-	-
<i>Brachionus angularis</i>	126	171	129	100	58	25	12	158	408	1,720	12,600	4,533	54
<i>B. bennini</i>	-	-	-	-	-	-	-	-	21	9	817	9,833	20
<i>B. bidentata</i>	-	-	-	-	-	-	-	-	1,093	631	1,400	2,567	29
<i>B. budapestinensis</i>	31	8	48	50	-	200	-	-	-	-	117	-	1
<i>B. calyciflorus</i>	-	-	6	-	25	117	-	33	6,413	16,403	226,567	245,550	110
<i>B. caudatus</i>	11	20	28	-	50	-	9	92	1,158	7,285	119,933	84,333	67
<i>B. havanensis</i>	-	-	-	-	-	-	-	25	-	9	3,967	-	1
<i>B. nilsoni</i>	-	-	-	-	-	-	-	-	3	-	350	850	-
<i>B. quadridentatus</i>	97	52	48	75	25	-	48	392	994	2,168	5,133	12,117	70
<i>B. urceolaris</i>	-	-	-	-	-	-	-	-	7	-	-	533	-
<i>Cephalodella</i> sp.	-	9	19	-	-	-	-	25	3	-	-	-	6
<i>Collotheca</i> sp.	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Conochiloides</i> sp.	10	28	46	-	50	-	-	-	-	-	117	-	18
<i>Conochilus hippocrepis</i>	31	35	46	50	17	-	31	3,967	33	9	-	28	20
<i>C. unicoloris</i>	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Epiphanes macroura</i>	-	-	-	-	-	-	505	3,225	43	91	-	-	-
<i>E. pelagica</i>	-	-	-	-	-	-	-	-	545	150	-	-	-
<i>Euchlanis</i> sp.	-	-	-	-	-	-	79	1,000	51	-	-	-	2
<i>Filinia longiseta</i>	-	-	-	-	-	-	5	67	77	18	233	-	-
<i>F. sp.</i>	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Hexarthra mira</i>	79	43	65	-	-	-	-	-	-	-	-	317	-
<i>H. sp.</i>	39	-	-	50	-	-	-	-	-	-	-	-	-
<i>Keratella cochlearis</i>	272	260	195	175	83	158	-	-	5	13	117	-	-
<i>K. crassa</i>	223	152	81	250	100	100	-	-	3	-	350	-	31
<i>K. carlinae</i>	22	30	12	50	-	-	-	-	-	-	-	-	24
<i>K. serrulata</i>	-	-	-	-	-	-	28	75	-	-	-	-	-

Table 5-8A

OCCURRENCE AND ABUNDANCE OF ZOOPLANKTON TAXA IN SAMPLES COLLECTED
DURING LATE SUMMER/EARLY FALL
(continued)

	TRM 350.0			TRM 345.2			HS5.9 no/m ³	HS5.37 no/tow	HS2.4 no/m ³	HS1.3 no/m ³	BF1.2 no/tow	IC4.0 no/tow	ICW0.0 no/m ³
	L	M	R	L	M	R							
Rotifera (cont.)													
<i>Lecane</i> sp.	-	-	-	25	-	-	43	1,967	456	199	350	150	12
<i>Monostyla bulla</i>	-	-	-	-	-	-	-	33	-	-	117	-	-
<i>M. sp.</i>	-	-	-	25	-	-	19	675	105	22	117	-	6
<i>Mytilinia</i> sp.	-	-	-	-	-	-	-	158	24	9	-	-	-
<i>Notholca</i> sp.	-	-	-	-	-	-	-	-	-	9	-	-	-
<i>Platylabus patulus</i>	11	39	-	-	25	-	116	2,592	238	449	233	150	-
<i>P. quadricornis</i>	-	-	-	-	-	-	109	4,267	229	335	-	-	4
<i>Ploesoma hudsoni</i>	141	53	29	250	183	67	-	-	-	-	-	-	11
<i>P. truncatum</i>	64	29	10	25	17	-	-	-	-	-	-	-	-
<i>Polvartha</i> sp.	816	825	702	2,650	967	1,042	15	33	17	16	5,950	233	129
<i>Rotaria</i> sp.	-	-	-	-	-	-	166	917	334	77	-	-	4
<i>Synchaeta</i> sp.	3,997	3,119	1,657	4,900	1,683	2,467	80	400	75	54	29,050	383	861
<i>S. stylata</i>	-	-	-	-	-	-	-	-	-	-	-	-	1,008
<i>Tetradinella</i> sp.	-	-	-	-	-	-	30	1,175	115	95	-	150	-
<i>Trichocerca</i> sp.	22	-	38	25	17	25	5	-	5	-	-	-	-
<i>Trichotria</i> sp.	-	-	-	-	-	-	-	-	-	13	-	-	-
Contracted Rotifera	-	9	-	-	-	-	48	3,450	333	511	117	150	20
Cladocera													
<i>Alona costata</i>	-	-	1	50	-	-	1	33	-	-	1	-	-
<i>Bosmina longirostris</i>	14,578	9,862	7,285	31,400	20,167	8,017	-	25	1	-	1,633	83	2,531
<i>Camptocercus rectirostris</i>	-	-	-	-	-	-	-	-	-	-	-	-	1
<i>Ceriodaphnia lacustris</i>	12	10	1	1	1	1	-	-	-	-	-	-	-
<i>C. (immature)</i>	21	10	4	225	1	17	40	542	-	-	-	-	-
<i>C. quadrangula</i>	1	-	-	26	17	-	1	-	-	-	-	-	-
<i>C. reticulata</i>	-	-	-	-	-	-	1	-	-	-	-	-	-
<i>Chydorus</i> sp.	-	31	6	50	25	-	1	-	-	1	-	1	-
<i>Daphnia ambigua</i>	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>D. parvula</i>	1	-	-	1	-	1	-	-	-	-	-	-	-

Table 5-8A

OCCURRENCE AND ABUNDANCE OF ZOOPLANKTON TAXA IN SAMPLES COLLECTED
DURING LATE SUMMER/EARLY FALL
(continued)

	TRM 350.0			TRM 345.2			HS5.9 no/m ³	HS5.37 no/tow	HS2.4 no/m ³	HS1.3 no/m ³	EFL.2 no/tow	ICA.0 no/tow	ICM0.0 no/m ³
	L	M	R	L	M	R							
<u>Cladocera (cont.)</u>													
<u>D. retrocurva</u>	1	1	1	-	-	-	-	-	-	-	-	-	1
<u>D. (imature)</u>	1	1	1	-	-	-	-	-	-	-	-	-	1
<u>Diaphanosoma leuchtenbergianum</u>	50	213	95	1,100	350	117	-	-	-	1	120	155	6
<u>Ilyocypris (imature)</u>	-	-	-	-	-	-	3	142	-	1	-	-	1
<u>I. sordidus</u>	-	-	-	-	-	-	5	-	-	-	-	-	1
<u>I. spinifer</u>	-	1	1	25	1	-	8	25	-	-	1	2	1
<u>Kurzia latissima</u>	-	-	-	-	-	-	-	-	-	-	-	-	2
<u>Leptodora kindtii</u>	6	1	1	10	-	1	-	-	-	-	1	-	1
<u>Leydigia acanthocercoides</u>	-	-	-	-	-	-	-	-	-	-	-	-	-
<u>L. quadrangularis</u>	-	-	-	-	-	-	-	-	-	-	-	-	-
<u>Moina affinis</u>	-	-	-	-	-	-	-	-	-	-	-	-	-
<u>Moina minuta</u>	1	-	-	-	-	-	-	-	-	-	-	-	-
<u>M. (imature)</u>	-	-	-	-	-	-	-	-	-	-	-	-	-
<u>Pleuroxus denticulatus</u>	-	-	-	-	-	-	5	1	-	-	-	-	-
<u>P. hamulatus</u>	-	-	1	-	1	-	-	-	-	-	-	-	2
<u>Scapholebris kingi</u>	-	-	-	1	1	-	-	-	-	-	-	-	-
<u>Sida crystallina</u>	1	2	1	18	3	2	-	-	-	-	-	-	-
<u>Simocephalus (imature)</u>	11	1	-	1	1	-	1	28	-	-	-	-	-
<u>S. serrulatus</u>	-	-	-	-	-	-	1	1	-	-	-	-	-
<u>Simocephalus vetulus</u>	-	-	1	-	-	-	-	1	-	-	-	-	-
<u>Calanoida</u>													
<u>Calanoid (imature)</u>	31	12	14	55	33	3	1	3	14	1	1	1	1
<u>Diaptomus dorsalis</u>	-	-	-	-	-	-	-	-	-	-	-	-	-
<u>D. pallidus</u>	1	1	1	5	4	3	-	-	-	-	-	-	-
<u>D. reighardi</u>	1	1	1	2	3	-	1	-	1	1	1	-	1
<u>Ophranticum labronectum</u>	-	-	-	-	-	-	-	1	-	-	-	-	-

Table 5-8A

OCCURRENCE AND ABUNDANCE OF ZOOPLANKTON TAXA IN SAMPLES COLLECTED
DURING LATE SUMMER/EARLY FALL
(continued)

	TRM 350.0			TRM 345.2			HS5.9 no/m ³	HS5.37 no/tow	HS2.4 no/m ³	HS1.3 no/m ³	BF1.2 no/tow	IC4.0 no/tow	IC40.0 no/m ³
	L	M	R	L	M	R							
1,902	860	534		2,225	1,783	1,200	499	3,842	1,108	475	380	1,000	37
Cyclopoid (immature)													
Cyclops thomasi													
C. rubellus													
C. vernalis	12	10	1	179	108	133	1	1	1	10	16	17	1
Erasilus sp.	72	57	21	79	67	2				9	1	16	
E. (immature)	63	35	36	51						1	3		
Eucyclops agilis			1	25		2	13	9	1	1	357		2
E. speratus							13	59	1	1	2	1	1
Macrocyclus albidus	1					1	1	26	1	1	1	1	
Macrocyclus edax	1	1	1	55	133	37	1	1	1	1	2		
N. leukarti							1	1		1	1		1
Orthocyclops modestus							1	5		1		4	
Tropocyclops prasinus	1	9	21	8	1	5	44	104	29	23	65	1	6
Haracticoida													
Haracticoid (immature)				25	17		4	25	1	1			
Canthocamptus robertsoni							1	1	5	1		1	
Mitocera lacustris					1								
Arguloida													
Argulus spp.													1
Kaupii													
5,249	3,748	2,184	5,600	3,433	2,808	3,588	22,675	1,948	859	3,850	3,150	170	

x = presence of taxon
- = absence of taxon
1 = most abundant taxon

Table 5-8B

ZOOPLANKTON COMPOSITION
REPLICATE ANALYSIS RESULTS AND
CALCULATED MEANS -
LATE SUMMER/EARLY FALL SAMPLING

DOT TASK 5 ZOOPLANKTON CALCULATIONS
SEPTEMBER 24, 1979

YEAR=79 RIVER=INDIAN CREEK RIV_MILE=000.0 SAM_LOCA=J MN=09

TAXON	GROUP	MEAN
ARGULUS SP.	BRANCHIURA	1
BOSMINA LONGIROSTRIS	CLADOCERA	2531
CAMPTOCERCUS RECTIROSTRIS	CLADOCERA	1
DAPHNIA IMH.	CLADOCERA	1
DAPHNIA RETROCURVA	CLADOCERA	1
DIAPHANOSOMA LEUCHTENBERGIANUM	CLADOCERA	6
ILYOCRYPTUS IMH.	CLADOCERA	1
ILYOCRYPTUS SPINIFER	CLADOCERA	1
KURZIA LATISSIMA	CLADOCERA	2
LEPTODORA KINDTII	CLADOCERA	1
PLEUROXUS HAMULATUS	CLADOCERA	2
CALANDRIDA IMH.	COPEPODA	1
CYCLOPOIDA IMH.	COPEPODA	37
CYCLOPS BICUSPIDATUS THOMAS	COPEPODA	1
CYCLOPS VARICANS RUBELLUS	COPEPODA	1
DIAPYCNUS PALLIDUS	COPEPODA	1
DIAPYCNUS REIGHARDI	COPEPODA	1
ERGASILUS IMH.	COPEPODA	2
EUCYCLOPS AGILIS	COPEPODA	1
MESOCYCLOPS EDAX	COPEPODA	1
NAUPLII	COPEPODA	170
TROPYCYCLOPS PRASINUS	COPEPODA	6
ASPLANCHNA HERRICKI	ROTIFERA	25
BRACHIONUS ANGULARIS	ROTIFERA	54
BRACHIONUS BENNINI	ROTIFERA	20
BRACHIONUS BIDENTATA	ROTIFERA	29
BRACHIONUS BUDAPESTINENSIS	ROTIFERA	1
BRACHIONUS CALYCIFLORUS	ROTIFERA	110
BRACHIONUS CAUDATUS	ROTIFERA	67
BRACHIONUS HAVANAENSIS	ROTIFERA	1
BRACHIONUS QUADRIDENTATUS	ROTIFERA	70
COLLOTHECA SP.	ROTIFERA	6
CONCHILIOIDES SP.	ROTIFERA	18
CONCHILUS UNICORNIS	ROTIFERA	20
CONTRACTED ROTIFERA	ROTIFERA	20
EUCHLANIS SP.	ROTIFERA	2
KERATELLA COCHLEARIS	ROTIFERA	31
KERATELLA CRASSA	ROTIFERA	24
LECANE SP.	ROTIFERA	12
MONOSTYLA SP.	ROTIFERA	6
PLATYIAS QUADRICORNIS	ROTIFERA	4
PLOESOMA HUDSONI	ROTIFERA	11
POLYARTHRA SP.	ROTIFERA	129
ROTARIA SP.	ROTIFERA	4
SYNCHAETA SP.	ROTIFERA	861
SYNCHAETA STYLATA	ROTIFERA	1008

DOT - ASK 3 ZOOPLANKTON LISTING
SEPTEMBER 24, 1979

10

TAXON	YEAR=79	RIV_MILE=000.0	SAM_LOC=AJ	PN=09	REP_NUM=1
BOSMINA LONGIROSTRIS					
DAPHNIA RETROCURVA					
DIAPHANOSOMA LEUCHTENBERGIANUM					
ILYOCRYPTUS SPINIFER					
KORZIA LATISSIMA					
PLEUROXUS HAMULATUS					
CALANOIDA IMM.					
CYCLOPSIDA IMM.					
CYCLOPS VARICANS RUBELLUS					
DIAPTOMUS PALLIDUS					
ERGASILUS IMM.					
EUCYCLOPS AGILIS					
YESOCCYCLOPS EDAX					
NAUPLII					
TROPOCYCLOPS PRASINUS					
ASPLANCHNA HERRICKI					
BRACHIONUS ANGULARIS					
BRACHIONUS BENNICI					
BRACHIONUS BIDENTATA					
BRACHIONUS CALYCIFLORUS					
BRACHIONUS CAUDATUS					
BRACHIONUS QUADRIDENTATUS					
COLLOTHECA SP.					
CONOCHILIDES SP.					
CONTRACTED ROTIFERA					
EUCHLANIS SP.					
KERATELLA COCHLEARIS					
KERATELLA CRASSA					
MONOSTYLA SP.					
PLATYIAS QUADRICORNIS					
PLOESOMA HUDSONI					
POLYARTHA SP.					
SYNCHAETA STYLATA					

DDT TASK 3 ZOOPLANKTON LISTING
SEPTEMBER 24, 1979

----- RIVER-INDIAN CREEK YEAR=79 RIV_MILE=000.0 SAM_LOC=AJ MN=09 REP_NUM=2 -----

11

TAXON	GROUP	NUM
BOSMINA LONGIROSTRIS	CLADOCERA	1623
CAMPTOCERCUS RECTIROSTRIS	CLADOCERA	1
DAPHNIA IMM.	CLADOCERA	1
DIAPHANOSOMA LEUCHTENBERGIANUM	CLADOCERA	5
ELYOCRYPTUS IMM.	CLADOCERA	1
CALANOIDA IMM.	COPEPODA	1
CYCLOPOIDA IMM.	COPEPODA	32
CYCLOPS VARICANS RUBELLUS	COPEPODA	1
ERGASILUS IMM.	COPEPODA	5
NAUPLII	COPEPODA	113
TROPOCYCLOPS PRASINUS	COPEPODA	5
ASPLANCHIA HERRICKI	ROTIFERA	16
BRACHIONUS ANGULARIS	ROTIFERA	80
BRACHIONUS BIDENTATA	ROTIFERA	11
BRACHIONUS BUDAPESTINENSIS	ROTIFERA	5
BRACHIONUS CALYCIFLORUS	ROTIFERA	96
BRACHIONUS CAUDATUS	ROTIFERA	43
BRACHIONUS HAVANAENSIS	ROTIFERA	5
BRACHIONUS QUADRIDENTATUS	ROTIFERA	80
CONOCHILUS SP.	ROTIFERA	21
CONOCHILUS UNICORNIS	ROTIFERA	48
CONTRACTED ROTIFERA	ROTIFERA	38
KERATELLA COCHLEARIS	ROTIFERA	27
KERATELLA CRASSA	ROTIFERA	21
PLEODOMA HUDSONI	ROTIFERA	5
POLYARTHA SP.	ROTIFERA	129
SYNCHAETA SP.	ROTIFERA	311
SYNCHAETA STYLATA	ROTIFERA	707

AD-A128 024

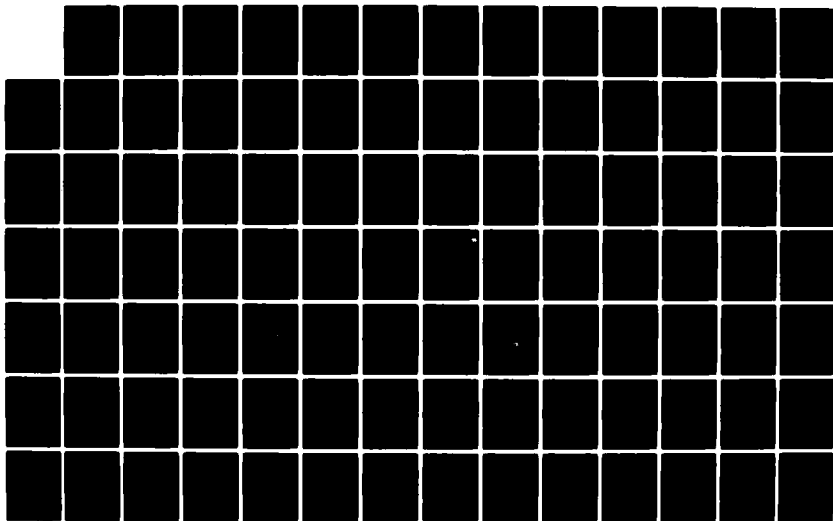
ENGINEERING AND ENVIRONMENTAL STUDY OF DDT
CONTAMINATION OF HUNTSVILLE SP..(U) WATER AND AIR
RESEARCH INC GAINESVILLE FL J H SULLIVAN ET AL. NOV 80
DACW01-79-C-0224

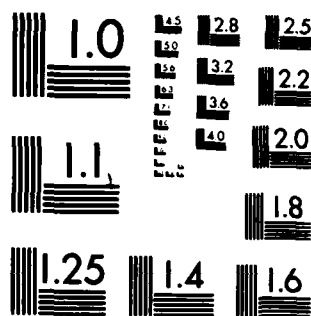
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MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

DOT TASK 5 ZOOPLANKTON LISTING
SEPTEMBER 24, 1979

12

REP_NUM=3

PN=09

SM_LOC=AJ

RIV_MILE=000.0

YEAR=79

RIVER=INDIAN CREEK

TAXON

GROUP

NUM

ARGULUS SP.	BRANCHIURA	1
BOSMINA LONGIROSTRIS	CLADOCERA	4125
DIAPHANOSOMA LEUCHTENBERGIANUM	CLADOCERA	12
ILYOCRYPTUS SPINIFER	CLADOCERA	1
KURZIA LATISSIMA	CLADOCERA	1
LEPTODORA KINOTTI	CLADOCERA	1
PLEURONXUS HAMULATUS	CLADOCERA	1
CALANDRIDA IMM.	COPEPODA	1
CYCLOPOIDA IMM.	COPEPODA	12
CYCLOPS BICUSPIDATUS THOMAS?	COPEPODA	1
CYCLOPS VARICANS RUBELLUS	COPEPODA	1
DIAPTONUS PALLIDUS	COPEPODA	1
DIAPTONUS REIGHARDI	COPEPODA	1
ERGASILUS IMM.	COPEPODA	1
NAUPLII	COPEPODA	1
TROPIDOCYCLOPS PRASINUS	COPEPODA	278
ASPLANCHNA HERRICKI	COPEPODA	12
BRACHIONUS ANGULARIS	ROTIFERA	24
BRACHIONUS BENNINI	ROTIFERA	36
BRACHIONUS BIDENTATA	ROTIFERA	48
BRACHIONUS CALYCIFLORUS	ROTIFERA	60
BRACHIONUS CAUDATUS	ROTIFERA	85
BRACHIONUS QUADRIDENTATUS	ROTIFERA	73
COLLOTHECA SP.	ROTIFERA	12
CONCHILUS UNICORNIS	ROTIFERA	12
CONTRACTED ROTIFERA	ROTIFERA	12
KERATELLA COCHLEARIS	ROTIFERA	60
KERATELLA CRASSA	ROTIFERA	36
LECANE SP.	ROTIFERA	36
MONGSTYLA SP.	ROTIFERA	12
PLEOSOMA HUDSONI	ROTIFERA	12
POLYARTHRA SP.	ROTIFERA	230
ROTARIA SP.	ROTIFERA	12
SYNCHAETA SP.	ROTIFERA	2274
SYNCHAETA STYLATA	ROTIFERA	1609

DDT TASK 5 ZOOPLANKTON CALCULATIONS
SEPTEMBER 24, 1979

YEAR#79

RIVER#HUNTSVILLE SPRING BRANCH

RIV_MILE#001.3

SAM_LOC#AD

NN#09

TAXON	GROUP	MEAN
CHYDORUS SP.	CLADOCERA	1
DIAPHANOSOMA LEUCHTENBERGIANUM	CLADOCERA	1
ILYOCRYPTUS IMM.	CLADOCERA	1
CALANOIDA IMM.	COPEPODA	1
CANTHOCAMPTUS ROBERTCOKERI	COPEPODA	1
CYCLOPOIDA IMM.	COPEPODA	475
CYCLOPS VARICANS RUBELLUS	COPEPODA	10
CYCLOPS VERNALIS	COPEPODA	9
DIAPTOMUS PALLIDUS	COPEPODA	1
ERGASILUS SP.	COPEPODA	1
EUCYCLOPS AGILIS	COPEPODA	1
EUCYCLOPS SPERATUS	COPEPODA	1
HARPACTICOID IMM.	COPEPODA	1
MACROCYCLOPS ALBIDUS	COPEPODA	1
MESOCYCLOPS EDAX	COPEPODA	1
NAUPLII	COPEPODA	899
ORTHOCYCLOPS MODESTUS	COPEPODA	1
OSPHRANTICUP LABRONECTUM	COPEPODA	1
TROPYCYCLOPS PRASINUS	COPEPODA	23
ASPLANCHNA AMPHORA	ROTIFERA	72
OHELLOIDEA	ROTIFERA	416
BRACHIONUS ANGULARIS	ROTIFERA	1720
BRACHIONUS BENNETTI	ROTIFERA	9
BRACHIONUS BIDENTATA	ROTIFERA	631
BRACHIONUS CALYCIFLORUS	ROTIFERA	16403
BRACHIONUS CAUDATUS	ROTIFERA	7283
BRACHIONUS HAVANAENSIS	ROTIFERA	9
BRACHIONUS QUADRIDENTATUS	ROTIFERA	2168
CONCHILUS HIPPOCREPIS	ROTIFERA	49
CONTRACTED ROTIFERA	ROTIFERA	511
EPIPHANES MACROURUS	ROTIFERA	91
EPIPHANES PELAGICA	ROTIFERA	150
FILINIA LONGISETA	ROTIFERA	18
HEXARTHRA SP.	ROTIFERA	13
LECANE SP.	ROTIFERA	199
MONOSTYLA SP.	ROTIFERA	22
MYTILINA SP.	ROTIFERA	9
NOTHOLCA SP.	ROTIFERA	9
PLATYIAS PATULUS	ROTIFERA	449
PLATYIAS QUADRICORNIS	ROTIFERA	335
POLYARTHRA SP.	ROTIFERA	18
ROTARIA SP.	ROTIFERA	77
SYNCHAETA SP.	ROTIFERA	54
TESTUDINELLA SP.	ROTIFERA	95
TRICHOTRIA SP.	ROTIFERA	13

DOT TASK 3 ZOOPLANKTON LISTING
SEPTEMBER 24, 1979

----- RIVERMUNTSVILLE SPRING BRANCH YEAR=79 RIV_MILE=001.3 SAM_LOC=AD MN=09 REP_NUM=1 -----

TAXON	GROUP	NUM
CHYDORUS SP.	CLADOCERA	1
CALANOIDA IMM.	COPEPODA	1
CANTHOCAMPTUS ROBERTCOKERI	COPEPODA	1
CYCLOPOIDA IMM.	COPEPODA	618
CYCLOPS VARICANS RUBELLUS	COPEPODA	2
CYCLOPS VERNALIS	COPEPODA	1
DIATOMUS PALLIDUS	COPEPODA	1
EUCYCLOPS AGILIS	COPEPODA	1
EUCYCLOPS SPERATUS	COPEPODA	1
HAEPACTICOID IMM.	COPEPODA	1
MESOCYCLOPS EDAX	COPEPODA	1
NAUPLII	COPEPODA	1071
TRUPOCYCLOPS PRASINUS	COPEPODA	41
ASPLACHNA AMPHORA	COPEPODA	82
BDELLOIDEA	ROTIFERA	576
BRACHIONUS ANGULARIS	ROTIFERA	3066
BRACHIONUS BIDENTATA	ROTIFERA	1112
BRACHIONUS CALYCIFLORUS	ROTIFERA	18633
BRACHIONUS CAUDATUS	ROTIFERA	10933
BRACHIONUS QUADRIDENTATUS	ROTIFERA	2924
COMOCHILUS HIPPOCREPIS	ROTIFERA	41
CONTRACTED ROTIFERA	ROTIFERA	618
EPIPHANES MACROURUS	ROTIFERA	169
HEXARTHRA SP.	ROTIFERA	288
LECANE SP.	ROTIFERA	41
MONOSTYLA SP.	ROTIFERA	329
PLATYIAS PATULUS	ROTIFERA	41
PLATYIAS QUADRICORNIS	ROTIFERA	782
ROTARIA SP.	ROTIFERA	494
SYNCHAETA SP.	ROTIFERA	124
TESTUDINELLA SP.	ROTIFERA	82
TRICHOETRIA SP.	ROTIFERA	124
TRICHOETRIA SP.	ROTIFERA	41

DOT TASK 3 ZOOPLANKTON LISTING
SEPTEMBER 24, 1979

2

----- RIVER-HUNTSVILLE SPRING BRANCH YEAR=79 RIV_MILE=001.3 SAM_LOQ=AD MN=09 REP_NUM=2 -----

TAXON	GROUP	NUM
CHYDORUS SP.	CLADOCERA	1
DIAPHANOSOMA LEUCHTENBERGIANUM	CLADOCERA	1
LYOCRYPTUS IMM.	CLADOCERA	1
CALANOIDA IMM.	COPEPODA	1
CANTHOCAMPTUS ROBERTCOKERI	COPEPODA	1
CYCLUPOIDA IMM.	COPEPODA	646
CYCLOPS VARICANS RUBELLUS	COPEPODA	27
CYCLOPS VERNALIS	COPEPODA	1
DIAPTOMUS PALLIDUS	COPEPODA	1
ERGASILUS SP.	COPEPODA	1
EUCYCLOPS AGILIS	COPEPODA	1
EUCYCLOPS SPERATUS	COPEPODA	1
HARPACTICOID IMM.	COPEPODA	1
MACRUCYCLOPS ALBIDUS	COPEPODA	1
MESOCYCLOPS EDAX	COPEPODA	1
NAUPLII	COPEPODA	485
TROPUCYCLOPS PRASINUS	COPEPODA	27
ASPLANCHNA AMPHORA	ROTIFERA	54
BOELLORIDEA	ROTIFERA	215
BRACHIONUS ANGULARIS	ROTIFERA	1150
BRACHIONUS BIDENTATA	ROTIFERA	458
BRACHIONUS CALYCIFLORUS	ROTIFERA	10719
BRACHIONUS CAUDATUS	ROTIFERA	3958
BRACHIONUS HAVANAENSIS	ROTIFERA	27
BRACHIONUS QUADRIDENTATUS	ROTIFERA	1346
CONCHILUS HIPPOCREPIS	ROTIFERA	27
CONTRACTED ROTIFERA	ROTIFERA	323
EPIPHANES MACRODURUS	ROTIFERA	81
EPIPHANES PELAGICA	ROTIFERA	81
LECANE SP.	ROTIFERA	162
HYTILINA SP.	ROTIFERA	27
PLATYIAS PATULUS	ROTIFERA	215
PLATYIAS QUADRICORNIS	ROTIFERA	269
POLYARTHRA SP.	ROTIFERA	27
ROTARIA SP.	ROTIFERA	108
SYNCHAETA SP.	ROTIFERA	27
TESTUDIRELLA SP.	ROTIFERA	81

DOT TASK 5 ZOOPLANKTON LISTING
SEPTEMBER 24, 1979

----- RIVERMUNTSVILLE SPRING BRANCH YEAR=79 RIV_MILE=001.3 SAM_LOC=AO MN=09 REP_NUM=3 -----

TAXON	GROUP	NUM
DIAPHANOSOMA LEUCHTENBERGIANUM	CLADOCERA	1
CALANOIDA IMM.	COPEPODA	1
CANTHOCAMPTUS ROBERTSONERI	COPEPODA	1
CYCLOPOIDA IMM.	COPEPODA	162
CYCLOPS VARICANS RUBELLUS	COPEPODA	3
CYCLOPS VERNALIS	COPEPODA	27
DIAPYCNUS PALLIDUS	COPEPODA	1
ERGASILUS SP.	COPEPODA	1
EUCYCLOPS AGILIS	COPEPODA	1
EUCYCLOPS SPERATUS	COPEPODA	1
MECOCYCLOPS EDAX	COPEPODA	1
NAUPLII	COPEPODA	1023
ORTHOCYCLOPS MODESTUS	COPEPODA	1
OSPHRANTICUM LABRUMECTUM	COPEPODA	1
TROPUCYCLOPS PRASINUS	COPEPODA	2
ASPLANCHYA AMPHORA	ROTIFERA	81
BELLOIDEA	ROTIFERA	458
BRACHIONUS ANGULARIS	ROTIFERA	996
BRACHIONUS BENNINI	ROTIFERA	27
BRACHIONUS BIDENTATA	ROTIFERA	323
BRACHIONUS CALYCIFLORUS	ROTIFERA	13838
BRACHIONUS CAUDATUS	ROTIFERA	6946
BRACHIONUS QUADRIDENTATUS	ROTIFERA	2235
CONCHILUS HIPPOCREPIS	ROTIFERA	81
CONTRACTED ROTIFERA	ROTIFERA	592
EPIPHANES MACRURUS	ROTIFERA	27
EPIPHANES PELAGICA	ROTIFERA	81
FILINIA LONGISETA	ROTIFERA	54
LECANE SP.	ROTIFERA	109
MONOSTYLA SP.	ROTIFERA	27
NOTHOLCA SP.	ROTIFERA	27
PLATYIAS PATULUS	ROTIFERA	350
PLATYIAS QUADRICORNIS	ROTIFERA	242
POLYARTHA SP.	ROTIFERA	27
SYNCHAETA SP.	ROTIFERA	54
TESTUDINELLA SP.	ROTIFERA	81

DDY TASK 3 ZOOPLANKTON CALCULATIONS
SEPTEMBER 24, 1979

2

YEAR=79

RIVER-HUNTSVILLE SPRING BRANCH

RIV_MILE=02.6

SAM_LOC=AJ

MN=09

TAXON	GROUP	MEAN
OSMINA LONGIROSTRIS	GLADOCERA	1
ILYOCRYPTUS SORDIDUS	GLADOCERA	1
CALANDRIDA IMM.	COPEPODA	14
CANTHOCAMPTUS ROBERTSONI	COPEPODA	5
CYCLOPOIDA IMM.	COPEPODA	1108
CYCLOPS VARICANS RUBELLUS	COPEPODA	1
CYCLOPS VERNALIS	COPEPODA	4
DIAPYCNUS REICHHARDI	COPEPODA	1
EUCYCLOPS AGILIS	COPEPODA	1
EUCYCLOPS SPERATUS	COPEPODA	1
HARPACTICOID IMM.	COPEPODA	1
MACROCYCLOPS ALBIDUS	COPEPODA	1
MESOCYCLOPS EDAX	COPEPODA	1
NAUPLII	COPEPODA	1948
TROPYCYCLOPS PRASINUS	COPEPODA	29
ASPLANCHNA AMPHORA	ROTIFERA	39
BDELLOIDEA	ROTIFERA	266
BEUCAMPIDELLA SP.	ROTIFERA	7
BRACHIONUS ANGULARIS	ROTIFERA	408
BRACHIONUS BENNINGI	ROTIFERA	21
BRACHIONUS BIDENTATA	ROTIFERA	1093
BRACHIONUS CALYCIFLORUS	ROTIFERA	6413
BRACHIONUS CAUDATUS	ROTIFERA	1158
BRACHIONUS NILSONI	ROTIFERA	3
BRACHIONUS QUADRIDENTATUS	ROTIFERA	994
BRACHIONUS URCEOLARIS	ROTIFERA	7
CEPHALODELLA SP.	ROTIFERA	3
CONOCHILUS HIPPOCREPIS	ROTIFERA	38
CONTRACTED ROTIFERA	ROTIFERA	333
EPIPHANES MACROURUS	ROTIFERA	43
EPIPHANES PELAGICA	ROTIFERA	545
EUCHLANIS SP.	ROTIFERA	51
FILINIA LONGISETA	ROTIFERA	77
HEXARTHRA SP.	ROTIFERA	5
KERATELLA COCHLEARIS	ROTIFERA	3
LECANE SP.	ROTIFERA	456
MONOSTYLA SP.	ROTIFERA	105
MYTILINA SP.	ROTIFERA	24
PLATYIAS PATULUS	ROTIFERA	238
PLATYIAS QUADRICORNIS	ROTIFERA	229
POLYARTHRA SP.	ROTIFERA	17
ROTARIA SP.	ROTIFERA	334
SYNCHAETA SP.	ROTIFERA	75
TESTUINELLA SP.	ROTIFERA	115
TRICHOCECA SP.	ROTIFERA	5

DDY TASK 3 ZOOPLANKTON LISTING
SEPTEMBER 26, 1979

----- RIVER-HUNTSVILLE SPRING BRANCH YEAR=79 RIV_MILE=002.4 SAN_LDC=AJ MN=09 REP_NUM=1 -----

TAXON	GROUP	NUM
ILYOCRYPTUS SORDIDUS	GLADOCERA	1
CALANOIDA IMM. ROBERTCOKERI	COPEPODA	41
CARTHOCAPTUS IMM.	COPEPODA	1
CYCLOPOIDA IMM.	COPEPODA	1322
CYCLOPS VARICANS RUBELLUS	COPEPODA	1
CYCLOPS VERNALIS	COPEPODA	1
EUCYCLOPS AGILIS	COPEPODA	1
EUCYCLOPS SPERATUS	COPEPODA	1
HARPACTICOID IMM.	COPEPODA	1
MACROCYCLOPS ALBIDUS	COPEPODA	1
MESOCYCLOPS EDAX	COPEPODA	1
NAUPLII	COPEPODA	2314
TRUPOCYCLOPS PRASINUS	COPEPODA	41
ASPLANCHNA AMPHORA	ROTIFERA	21
BOELOIDEA	ROTIFERA	331
BEUCAMPIDELLA SP.	ROTIFERA	21
BRACHIONUS ANGULARIS	ROTIFERA	558
BRACHIONUS BIDENTATA	ROTIFERA	1839
BRACHIONUS CALYCIFLORUS	ROTIFERA	10723
BRACHIONUS CAUDATUS	ROTIFERA	1426
BRACHIONUS QUADRIDENTATUS	ROTIFERA	1324
BRACHIONUS URCEOLARIS	ROTIFERA	21
CONCHILUS HIPPOCREPIS	ROTIFERA	62
CONTRACTED ROTIFERA	ROTIFERA	393
EPIPHANES MACRORUS	ROTIFERA	41
EPIPHANES PELAGICA	ROTIFERA	888
EUCHLARIIS SP.	ROTIFERA	83
FILINIA LONGISETA	ROTIFERA	41
LECANE SP.	ROTIFERA	537
MONOSTYLA SP.	ROTIFERA	227
MYTILINA SP.	ROTIFERA	62
PLATYIAS PATULUS	ROTIFERA	351
PLATYIAS QUADRICORNIS	ROTIFERA	434
POLYARTHA SP.	ROTIFERA	41
ROTARIA SP.	ROTIFERA	640
SYNCHAETA SP.	ROTIFERA	145
TESTUDINELLA SP.	ROTIFERA	103

DOT TASK 5 ZOOPLANKTON LISTING
SEPTEMBER 26, 1979

----- RIVER=HUNTSVILLE SPRING BRANCH YEAR=79 RIV_MILE=002.4 SAM_LOC=AJ MN=09 REP_NUM=2 -----

TAXON	GROUP	NUM
BOSMINA LONGIROSTRIS	CLADOCERA	1
CALANOIDA IMM.	COPEPODA	1
CANTHOCAMPTUS ROBERTSONERI	COPEPODA	16
CYCLOPOIDA IMM.	COPEPODA	882
CYCLOPS VARICANS RUBELLUS	COPEPODA	1
CYCLOPS VERNALIS	COPEPODA	1
DIAPTOMUS REICARDI	COPEPODA	1
EUCYCLOPS AGILIS	COPEPODA	1
EUCYCLOPS SPERATUS	COPEPODA	1
MESOCYCLOPS EDAX	COPEPODA	1
NAUPLII	COPEPODA	1765
TROPOCYCLOPS PRASINUS	COPEPODA	16
ASPLANCHIA AMPHORA	ROTIFERA	65
BDELLIDEA	ROTIFERA	343
BRACHIONUS ANGULARIS	ROTIFERA	441
BRACHIONUS BENINI	ROTIFERA	33
BRACHIONUS BIDENTATA	ROTIFERA	98C
BRACHIONUS CALYCIFLORUS	ROTIFERA	5752
BRACHIONUS CAUDATUS	ROTIFERA	1422
BRACHIONUS QUADRIDENTATUS	ROTIFERA	1127
CONCHILUS HIPPOCREPIS	ROTIFERA	16
CONTRACTED ROTIFERA	ROTIFERA	392
EPIPHANES MACROURUS	ROTIFERA	16
EPIPHANES PELAGICA	ROTIFERA	441
EUCHLANIS SP.	ROTIFERA	49
FILINIA LONGISETA	ROTIFERA	98
HEXARTHRA SP.	ROTIFERA	16
LECANE SP.	ROTIFERA	523
MONOSTYLA SP.	ROTIFERA	49
PLATYIAS PATULUS	ROTIFERA	147
PLATYIAS QUADRICORNIS	ROTIFERA	163
ROTARIA SP.	ROTIFERA	261
SYNCHAETA SP.	ROTIFERA	49
TESTUDINELLA SP.	ROTIFERA	18C
TRICHOCERCA SP.	ROTIFERA	16

DOT TASK 3 ZOOPLANKTON LISTING
SEPTEMBER 24, 1979

----- RIVERHUNTSVILLE SPRING BRANCH YEAR=79 RIV_MILE=002.4 SAM_LOC=AJ MN=09 REP_NUM=3 -----

TAXON	GROUP	NUM
CALANDIOA IMM.	COPEPODA	1
CYCLOPOIDA IMM.	COPEPODA	1120
CYCLOPS VARIANS RUBELLUS	COPEPODA	1
CYCLOPS VERNALIS	COPEPODA	10
EUCYCLOPS AGILIS	COPEPODA	1
HARPACTICOID IMM.	COPEPODA	1
MACROCYCLOPS ALBIDUS	COPEPODA	1
MESOCYCLOPS EDAX	COPEPODA	1
NAUPLII	COPEPODA	1767
TRPOCYCLOPS PRASINUS	COPEPODA	31
ASPLANCHNA ANPHORA	ROTIFERA	21
BOELLOIDEA	ROTIFERA	185
BRACHIONUS ANGULARIS	ROTIFERA	226
BRACHIONUS BENHINI	ROTIFERA	31
BRACHIONUS BIDENTATA	ROTIFERA	462
BRACHIONUS CALYCIFLORUS	ROTIFERA	2764
BRACHIONUS CAUDATUS	ROTIFERA	627
BRACHIONUS WILSONI	ROTIFERA	10
BRACHIONUS QUADRIDENTATUS	ROTIFERA	473
CEPHALODELLA SP.	ROTIFERA	10
CONCHILUS HIPPOCREPIS	ROTIFERA	21
CONTRACTED ROTIFERA	ROTIFERA	216
EPIPHANES MACRODURUS	ROTIFERA	72
EPIPHANES PELAGICA	ROTIFERA	308
EUCHLANIS SP.	ROTIFERA	21
FILINIA LONGISETA	ROTIFERA	92
KERATELLA COCHLEARIS	ROTIFERA	10
LECANE SP.	ROTIFERA	308
MONOSTYLA SP.	ROTIFERA	41
MYTILINA SP.	ROTIFERA	10
PLATYIAS PATULUS	ROTIFERA	216
PLATYIAS QUADRICOONIS	ROTIFERA	92
POLYARTHA SP.	ROTIFERA	10
ROTARIA SP.	ROTIFERA	103
SYNCHAETA SP.	ROTIFERA	31
TESTUDINELLA SP.	ROTIFERA	62

DOT TASK 5 ZOOPLANKTON CALCULATIONS
SEPTEMBER 24, 1979

YEAR=79

RIVER=HUNTSVILLE SPRING BRANCH

RIV_MILE=005.9

SAM_LOCS=AJ

MN=09

TAXON	GROUP	MEAN
ALONA COSTATA	CLADOCERA	1
CERIODAPHNIA IMM.	CLADOCERA	40
CERIODAPHNIA QUADRANGULA	CLADOCERA	1
CERIODAPHNIA RETICULATA	CLADOCERA	1
CHYDORUS SP.	CLADOCERA	1
ILYOCRYPTUS IMM.	CLADOCERA	3
ILYOCRYPTUS SORDIDUS	CLADOCERA	5
ILYOCRYPTUS SPINIFER	CLADOCERA	5
PLEURXUS DENTICULATUS	CLADOCERA	8
SIMOCEPHALUS IMM.	CLADOCERA	1
SIMOCEPHALUS SERRULATUS	CLADOCERA	1
CALANOIDA IMM.	COPEPODA	1
CANTHJCAMPTUS ROBERTCOKERI	COPEPODA	1
CYCLOPIDA IMM.	COPEPODA	499
CYCLOPS VERNALIS	COPEPODA	1
DIATOMUS REIGHARDI	COPEPODA	1
EUCYCLOPS AGILIS	COPEPODA	13
EUCYCLOPS SPERATUS	COPEPODA	12
HARPACTICOID IMM.	COPEPODA	4
MACROCYCLOPS ALBIDUS	COPEPODA	1
MESOCYCLOPS EDAX	COPEPODA	1
MESOCYCLOPS LEUCKARTI	COPEPODA	1
NAUPLII	COPEPODA	358
ORTHOCYCLOPS MODESTUS	COPEPODA	1
TROPYCYCLOPS PRASINUS	COPEPODA	44
ASPLANCHNA AMPHORA	ROTIFERA	26
BDELLOIDEA	ROTIFERA	46
BEUCHAMPIELLA SP.	ROTIFERA	26
BRACHIONUS ANGULARIS	ROTIFERA	12
BRACHIONUS CAUDATUS	ROTIFERA	9
BRACHIONUS QUADRIDENTATUS	ROTIFERA	48
CONCHILUS HIPPOCREPIS	ROTIFERA	31
CONTRACTED ROTIFERA	ROTIFERA	48
EPIPHANES MACROURUS	ROTIFERA	503
EUGHLANIS SP.	ROTIFERA	79
FILINIA LONGISETA	ROTIFERA	5
KERATELLA SERRULATA	ROTIFERA	28
LECANE SP.	ROTIFERA	43
MONOSTYLA SP.	ROTIFERA	19
PLATYAS PATULUS	ROTIFERA	116
PLATYAS QUADRICORNIS	ROTIFERA	109
POLYARTHRA SP.	ROTIFERA	15
ROTARIA SP.	ROTIFERA	166
SYNCHAETA SP.	ROTIFERA	80
TESTUDINELLA SP.	ROTIFERA	30
TRICHOGERCA SP.	ROTIFERA	5

DOT TASK 3 ZOOPLANKTON LISTING
SEPTEMBER 24, 1979

----- RIVERMUNTSVILLE SPRING BRANCH YEAR=79 RIV_MILE=005.9 SAM_LOC=AJ MN=09 REP_NUM=1 -----

TAXON	GROUP	NUM
ALONA COSTATA	CLADOCERA	1
CERIODAPHNIA IMM.	CLADOCERA	22
CERIODAPHNIA QUADRANGULA	CLADOCERA	1
CERIODAPHNIA RETICULATA	CLADOCERA	1
CHYDORUS SP.	CLADOCERA	1
ILYOCRYPTUS IMM.	CLADOCERA	11
ILYOCRYPTUS SPINIFER	CLADOCERA	11
PLEUROXUS DENTICULATUS	CLADOCERA	1
SIMOCEPHALUS IMM.	CLADOCERA	1
SIMOCEPHALUS SERRULATUS	CLADOCERA	1
CALANOIDA IMM.	COPEPODA	1
CANTHOCARTUS ROBERTSONERI	COPEPODA	1
CYCLOPOIDA IMM.	COPEPODA	403
EUCYCLOPS AGILIS	COPEPODA	22
EUCYCLOPS SPERATUS	COPEPODA	11
HARPACTICOID IMM.	COPEPODA	1
MACROCYCLOPS ALBIUS	COPEPODA	1
MESOCYCLOPS EDAX	COPEPODA	1
NAUPLII	COPEPODA	3419
ORTHOCYCLOPS MODESTUS	COPEPODA	1
TROPYCYCLOPS PRASINUS	COPEPODA	44
ASPLANCHNA AMPHORA	ROTIFERA	22
BDELLOIDEA	ROTIFERA	22
BEUCHAMPIELLA SP.	ROTIFERA	22
BRACHIONUS ANGULARIS	ROTIFERA	22
BRACHIONUS QUADRIDENTATUS	ROTIFERA	11
CONCHILUS HIPPOCREPIS	ROTIFERA	66
CONTRACTED ROTIFERA	ROTIFERA	33
EPIPHANES MACRODURUS	ROTIFERA	419
EUCHLANIS SP.	ROTIFERA	110
KERATELLA SERRULATA	ROTIFERA	33
LECANE SP.	ROTIFERA	66
MONOSTYLA SP.	ROTIFERA	44
PLATYIAS PATULUS	ROTIFERA	121
PLATYIAS QUADRICORNIS	ROTIFERA	68
ROTARIA SP.	ROTIFERA	221
SYRCHAETA SP.	ROTIFERA	99

DOT TASK 3 ZOOPLANKTON LISTING
SEPTEMBER 24, 1979

RIVERHUNTSVILLE SPRING BRANCH YEAR=79 RIV_MILE=003.9 SAM_LOC=AJ MN=09 REP_NUM=2

TAXON	GROUP	NUM
CERIODAPHNIA IMM.	CLADOCERA	48
CERIODAPHNIA QUADRANGULA	CLADOCERA	1
CERIODAPHNIA RETICULATA	CLADOCERA	1
ILYOCRYPTUS SORDIDUS	CLADOCERA	16
PLEUROXUS DENTICULATUS	CLADOCERA	1
SIMOCEPHALUS IMM.	CLADOCERA	1
SIMOCEPHALUS SERRULATUS	CLADOCERA	1
CALANOIDA IMM.	COPEPODA	1
CYCLOPOIDA IMM.	COPEPODA	479
EUCYCLOPS AGILIS	COPEPODA	16
EUCYCLOPS SPERATUS	COPEPODA	16
MACROCYCLOPS ALBIDUS	COPEPODA	1
MESOCYCLOPS LEUCKARTI	COPEPODA	1
NAUPLII	COPEPODA	3894
ORTHOCYCLOPS MODESTUS	COPEPODA	1
TROPYCYCLOPS PRASINUS	COPEPODA	64
ASPLANCHMA AMPHORA	ROTIFERA	32
BDELLOIDEA	ROTIFERA	112
BEUCHAMPIELLA SP.	ROTIFERA	32
BRACHIONUS ANGULARIS	ROTIFERA	16
BRACHIONUS CAUDATUS	ROTIFERA	16
BRACHIONUS QUADRIDENTATUS	ROTIFERA	16
CUNDCHILUS HIPPOCREPIS	ROTIFERA	96
CONTRACTED ROTIFERA	ROTIFERA	16
EPIPHANES MACRODURUS	ROTIFERA	48
EUCHILANIS SP.	ROTIFERA	527
FILINIA LONGISETA	ROTIFERA	64
LECANE SP.	ROTIFERA	16
PLATYIAS PATULUS	ROTIFERA	64
PLATYIAS QUADRICORNIS	ROTIFERA	112
POLYARTHRA SP.	ROTIFERA	112
ROTARIA SP.	ROTIFERA	32
SYNCHAETA SP.	ROTIFERA	176
TESTUDINELLA SP.	ROTIFERA	64
TRICHOCCERCA SP.	ROTIFERA	64
TRICHOCCERCA SP.	ROTIFERA	16

DOT TASK 3 ZOOPLANKTON LISTING
SEPTEMBER 24, 1979

----- RIVERMOUNTSVILLE SPRING BRANCH YEAR=79 RIV_MILE=005.9 SAM_LOC=AJ MN=09 REP_NUM=3 -----

TAXON	GROUP	NUM
CERIODAPHNIA IMM.	CLADOCERA	52
CERIODAPHNIA QUADRANGULA	CLADOCERA	1
CERIODAPHNIA RETICULATA	CLADOCERA	1
ILYOCRYPTUS SPINIFER	CLADOCERA	13
PLEUROXUS DENTICULATUS	CLADOCERA	13
SIMOCEPHALUS IMM.	CLADOCERA	1
CALANOIDA IMM.	COPEPODA	1
CYCLOPOIDA IMM.	COPEPODA	556
CYCLOPS VERNALIS	COPEPODA	1
DIAPYCNUS REICHHARDI	COPEPODA	1
EUCYCLOPS AGILIS	COPEPODA	1
EUCYCLOPS SPERATUS	COPEPODA	13
HARPACTICOID IMM.	COPEPODA	13
MACROCYCLOPS ALBIDUS	COPEPODA	1
MESOCYCLOPS EDAX	COPEPODA	1
NAUPLII	COPEPODA	3453
ORTHOCYCLOPS MODESTUS	COPEPODA	1
TROPICOCYCLOPS PRASINUS	COPEPODA	1
ASPLANCHNA AMPHORA	COPEPODA	26
BEUCAMPIDELLA SP.	ROTIFERA	26
BRACHIONUS CAUDATUS	ROTIFERA	13
BRACHIONUS QUADRIDENTATUS	ROTIFERA	39
CUNOCHILUS HIPPOCREPIS	ROTIFERA	13
CONTRACTED ROTIFERA	ROTIFERA	65
EPIPHANES MACROURUS	ROTIFERA	569
EUCHLANIS SP.	ROTIFERA	65
KERATELLA SERRULATA	ROTIFERA	52
MONOSTYLA SP.	ROTIFERA	13
PLATYIAS PATULUS	ROTIFERA	116
PLATYIAS QUADRICORNIS	ROTIFERA	129
POLYARTHA SP.	ROTIFERA	13
ROTARIA SP.	ROTIFERA	103
SYNCHAETA SP.	ROTIFERA	78
TESTUDINELLA SP.	ROTIFERA	26

DOT TASK 3 ZOOPLANKTON CALCULATIONS
SEPTEMBER 24, 1979

YEAR=79 RIVER=TENNESSEE RIVER RIV_MILE=330.0 SAM_LOC=AE MN=09

TAXON	GROUP	MEAN
BOSMINA LONGIROSTRIS	CLADOCERA	14578
CERIODAPHNIA IMH.	CLADOCERA	21
CERIODAPHNIA LACUSTRIS	CLADOCERA	12
CERIODAPHNIA QUADRANGULA	CLADOCERA	1
DAPHNIA IMH.	CLADOCERA	1
DAPHNIA PARVULA	CLADOCERA	1
DAPHNIA RETROCURVA	CLADOCERA	1
DIAPHANOSOMA LEUCHTENBERGIANUM	CLADOCERA	301
LEPTODORA KINOTII	CLADOCERA	6
MOINA MINUTA	CLADOCERA	1
SIDA CRYSTALLINA	CLADOCERA	1
SIMOCEPHALUS IMH.	CLADOCERA	11
CALANOIDA IMH.	COPEPODA	31
CYCLOPOIDA IMH.	COPEPODA	1902
CYCLOPS VERNALIS	COPEPODA	12
DIAPTOMUS PALLIDUS	COPEPODA	1
DIAPTOMUS REICHHARDI	COPEPODA	1
ERGASILUS IMH.	COPEPODA	63
ERGASILUS SP.	COPEPODA	72
MACROCYCLOPS ALBIDUS	COPEPODA	1
MACROCYCLOPS EDAX	COPEPODA	1
NAUPLII	COPEPODA	2249
TROPUCYCLOPS PRASINUS	COPEPODA	1
ASPLANCHNA MERRICKI	ROTIFERA	2698
BRACHIONUS ANGULARIS	ROTIFERA	126
BRACHIONUS BUDAPESTINENSIS	ROTIFERA	31
BRACHIONUS CAUDATUS	ROTIFERA	11
BRACHIONUS QUADRIDENTATUS	ROTIFERA	97
CONCHILOIDES SP.	ROTIFERA	10
CONCHILUS UNICORNIS	ROTIFERA	31
HEXARTHRA MIRA	ROTIFERA	79
HEXARTHRA SP.	ROTIFERA	39
KERATELLA COCHLEARIS	ROTIFERA	272
KERATELLA CRASSA	ROTIFERA	223
KERATELLA EARLIINAE	ROTIFERA	22
PLATYIAS PATULUS	ROTIFERA	11
PLOESOMA HUDSONI	ROTIFERA	141
PLOESOMA TRUNCATA	ROTIFERA	64
POLYARTHRA SP.	ROTIFERA	816
SYNCHAETA SP.	ROTIFERA	3997
TRICHOCCERCA SP.	ROTIFERA	22

DOT TASK 5 ZOOPLANKTON LISTING
SEPTEMBER 24, 1979

TAXON	GROUP	NUM	REP_NUM=1
BOSMINA LONGIROSTRIS	CLADOCERA	18765	
CERIODAPHNIA IMM.	CLADOCERA	29	
CERIODAPHNIA LACUSTRIS	CLADOCERA	1	
DAPHNIA IMM.	CLADOCERA	1	
DAPHNIA PARVULA	CLADOCERA	1	
DAPHNIA RETROCURVA	CLADOCERA	1	
DIAPHANOSOMA LEUCHTENBERGIANUM	CLADOCERA	441	
LEPTODORA KINOTII	CLADOCERA	4	
SIDA CRYSTALLINA	CLADOCERA	1	
CALANOIDA IMM.	COPEPODA	59	
CYCLOPOIDA IMM.	COPEPODA	2206	
CYCLOPS VERNALIS	COPEPODA	1	
DIAPTOMUS PALLIDUS	COPEPODA	1	
DIAPTOMUS REICHARDI	COPEPODA	1	
ERGASILUS IMM.	COPEPODA	59	
ERGASILUS SP.	COPEPODA	118	
MESOCYCLOPS EDAX	COPEPODA	1	
NAUPLII	COPEPODA	5912	
TROPICOCYCLOPS PRASINUS	COPEPODA	1	
ASPLANCHIA HERRICKI	ROTIFERA	2735	
BRACHIONUS ANGULARIS	ROTIFERA	147	
BRACHIONUS BUDAPESTINENSIS	ROTIFERA	59	
BRACHIONUS QUADRIDENTATUS	ROTIFERA	88	
HEXARTHRA SP.	ROTIFERA	118	
KERATELLA COCHLEARIS	ROTIFERA	294	
KERATELLA CRASSA	ROTIFERA	176	
PLOESOMA HUDSONI	ROTIFERA	88	
PLOESOMA TRUNCATA	ROTIFERA	88	
POLYARTHRA SP.	ROTIFERA	618	
SYNCHAETA SP.	ROTIFERA	4471	

DDT TASK 5 ZOOPLANKTON LISTING
SEPTEMBER 24, 1979

14

----- RIVER TENNESSEE RIVER YEAR=79 RIV_MILE=350.0 SAM_LDC=AE MN=09 REP_NUM=2 -----

TAXON	GROUP	NUM
BOSMINA LONGIROSTRIS	CLADOCERA	16875
CERIODAPHNIA IMM.	CLADOCERA	35
CERIODAPHNIA LACUSTRIS	CLADOCERA	35
CERIODAPHNIA QUADRANGULA	CLADOCERA	1
DIAPHANOSOMA LEUCHTENBERGIANUM	CLADOCERA	625
LEPTODORA KINOTII	CLADOCERA	6
SIDA CRYSTALLINA	CLADOCERA	1
SIMOCEPHALUS IMM.	CLADOCERA	35
CALANOIDA IMM.	COPEPODA	3
CYCLOPOIDA IMM.	COPEPODA	1875
CYCLOPS VERNALIS	COPEPODA	35
DIAPTOMUS PALLIDUS	COPEPODA	1
DIAPTOMUS REICHHARDI	COPEPODA	1
ERGASILUS IMM.	COPEPODA	69
ERGASILUS SP.	COPEPODA	69
MESOCYCLOPS EDAX	COPEPODA	1
NAUPLII	COPEPODA	6493
TROPOCYCLOPS PRASINUS	COPEPODA	1
ASPLANCHNA HERRICKI	ROTIFERA	2986
BRACHIONUS ANGULARIS	ROTIFERA	139
BRACHIONUS BUDEPESTINENSIS	ROTIFERA	35
BRACHIONUS CAUDATUS	ROTIFERA	35
BRACHIONUS QUADRIDENTATUS	ROTIFERA	174
HEXARTHA MIRA	ROTIFERA	208
KERATELLA COCHLEARIS	ROTIFERA	243
KERATELLA CRASSA	ROTIFERA	243
KERATELLA EARLINA	ROTIFERA	35
PLATYIAS PATULUS	ROTIFERA	35
PLOESOMA HUDSONI	ROTIFERA	243
PLOESOMA TRUNCATA	ROTIFERA	104
POLYARTHA SP.	ROTIFERA	1111
SYNCHAETA SP.	ROTIFERA	4271
TRICHOGERCA SP.	ROTIFERA	35

DOT TASK 9 ZOOPLANKTON LISTING
SEPTEMBER 24, 1979

----- RIVER=TENNESSEE RIVER YEAR=79 RIV_MILE=350.0 SAM_LOC=AE MN=09 REP_NUM=3 -----

TAXON	GROUP	NUM
BOSMINA LONGIROSTRIS	CLADOCERA	8094
CERIODAPHNIA IMM.	CLADOCERA	1
CERIODAPHNIA LACUSTRIS	CLADOCERA	1
DAPHNIA IMM.	CLADOCERA	1
DAPHNIA RETROCURVA	CLADOCERA	1
DIAPHANOSOMA LEUCHTENBERGIANUM	CLADOCERA	438
LEPTODORA KINDTII	CLADOCERA	8
MOINA MINUTA	CLADOCERA	1
SIDA CRYSTALLINA	CLADOCERA	1
CALANOIDA IMM.	COPEPODA	31
CYCLOPOIDA IMM.	COPEPODA	1625
CYCLOPS VERNALIS	COPEPODA	1
DIAPYCNUS PALLIDUS	COPEPODA	1
DIAPYCNUS REICHHARDI	COPEPODA	1
ERGASILUS IMM.	COPEPODA	63
ERGASILUS SP.	COPEPODA	31
MACROCYCLOPS ALBIDUS	COPEPODA	1
MACROCYCLOPS EDAX	COPEPODA	1
NAUPLII	COPEPODA	3344
TROPYCYCLOPS PRASINUS	COPEPODA	1
ASPLANCHMA HERRICKI	COPEPODA	1
BRACHIONUS ANGULARIS	ROTIFERA	2375
BRACHIONUS QUADRIDENTATUS	ROTIFERA	94
CONOCHILUS SP.	ROTIFERA	31
CONOCHILUS UNICORNIS	ROTIFERA	31
HEXARTHA MIRA	ROTIFERA	94
KERATELLA COCHLEARIS	ROTIFERA	31
KERATELLA CRASSA	ROTIFERA	281
KERATELLA EARLINA	ROTIFERA	230
PLEOSOMA HUOSOMI	ROTIFERA	31
POLYARTHA SP.	ROTIFERA	94
SYNCHAETA SP.	ROTIFERA	719
TRICHOCECA SP.	ROTIFERA	3250
TRICHOCECA SP.	ROTIFERA	31

DOT TASK 5 ZOOPLANKTON CALCULATIONS
SEPTEMBER 24, 1979

YEAR=79

RIVER=TENNESSEE RIVER

RIV_MILE=350.0

SAM_LOC=AJ

MN=09

TAXON	GROUP	MEAN
BOSMINA LONGIROSTRIS	CLADOCERA	9862
CERIODAPHNIA IMH.	CLADOCERA	10
CERIODAPHNIA LACUSTRIS	CLADOCERA	10
CHYDORUS SP.	CLADOCERA	31
DAPHNIA IMH.	CLADOCERA	1
DIAPHANOSOMA LEUCHTENBERGIANUM	CLADOCERA	213
ILYOCRYPTUS SPINIFER	CLADOCERA	1
LEPTODORA KINDTII	CLADOCERA	1
SIDA CRYSTALLINA	CLADOCERA	2
SIMOCEPHALUS IMH.	CLADOCERA	1
CALANOIDA IMH.	COPEPODA	12
CYCLOPODIDA IMH.	COPEPODA	860
CYCLOPS VERNALIS	COPEPODA	10
DIAPTOMUS PALLIDUS	COPEPODA	1
DIAPTOMUS REICHHARDI	COPEPODA	1
ERGASILUS IMH.	COPEPODA	35
ERGASILUS SP.	COPEPODA	57
MESOCYCLOPS EDAX	COPEPODA	1
NAUPLII	COPEPODA	3740
TROPICOCYCLOPS PRASINUS	COPEPODA	9
ASPLANCHNA HERRICKI	ROTIFERA	1735
BRACHIONUS ANGULARIS	ROTIFERA	171
BRACHIONUS BUDAPESTINENSIS	ROTIFERA	8
BRACHIONUS CAUDATUS	ROTIFERA	20
BRACHIONUS QUADRIDENTATUS	ROTIFERA	52
COLLOTHECA SP.	ROTIFERA	9
CONOCHILOIDES SP.	ROTIFERA	28
CONOCHILUS UNICORNIS	ROTIFERA	35
CONTRACTED ROTIFERA	ROTIFERA	9
HEXARTHRA MIRA	ROTIFERA	43
KERATELLA COCHLEARIS	ROTIFERA	260
KERATELLA CRASSA	ROTIFERA	152
KERATELLA EARLINA	ROTIFERA	30
PLATYIAS PATULUS	ROTIFERA	39
PLOESOMA HUDSONI	ROTIFERA	53
PLOESOMA TRUNCATA	ROTIFERA	29
POLYARTHRA SP.	ROTIFERA	825
SYNCHAETA SP.	ROTIFERA	3119

DOT TASK 3 ZOOPLANKTON LISTING
SEPTEMBER 24, 1979

10

----- RIVER=TENNESSEE RIVER YEAR=79 RIV_MILE=350.0 SAM_LOC=AJ MN=09 REP_NUM=1 -----

TAXON	GROUP	NUM
BOSMINA LONGIROSTRIS	CLADOCERA	11706
CERIODAPHNIA LACUSTRIS	CLADOCERA	29
CHYDORUS SP.	CLADOCERA	29
DAPHNIA IMM.	CLADOCERA	1
DIAPHANOSOMA LEUCHTENBERGIANUM	CLADOCERA	176
LEPTODORA KINDTII	CLADOCERA	1
SIDA CRYSTALLINA	CLADOCERA	2
CALANOIDA IMM.	COPEPODA	1147
CYCLUPOIDA IMM.	COPEPODA	3
CYCLUPS VERNALIS	COPEPODA	29
DIAPYCNUS PALLIDUS	COPEPODA	1
DIAPYCNUS REIGHARDI	COPEPODA	1
ERGASILUS IMM.	COPEPODA	59
ERGASILUS SP.	COPEPODA	118
MESOCYCLOPS EDAX	COPEPODA	1
NAUPLII	COPEPODA	4912
TROPICOCYCLOPS PRASINUS	COPEPODA	2
ASPLANCHNA HERRICKI	ROTIFERA	1647
BRACHIONUS ANGULARIS	ROTIFERA	294
BRACHIONUS CAUDATUS	ROTIFERA	29
COLLOTHECA SP.	ROTIFERA	29
CONOCHILOIDES SP.	ROTIFERA	29
CONOCHILUS UNICORNIS	ROTIFERA	59
CONTRACTED ROTIFERA	ROTIFERA	29
HEXARTHA MIRA	ROTIFERA	29
KERATELLA COCHLEARIS	ROTIFERA	500
KERATELLA CRASSA	ROTIFERA	206
KERATELLA EARLINA	ROTIFERA	29
PLATYIAS PATULUS	ROTIFERA	88
PLEODSOMA HUDSONI	ROTIFERA	59
POLYARTHA SP.	ROTIFERA	1206
SYNCHAETA SP.	ROTIFERA	3324

DOT TASK 5 ZOOPLANKTON LISTING
SEPTEMBER 24, 1979

17

----- RIVER, TENNESSEE RIVER YEAR=79 RIV_MILE=350.0 SAN_LOC=AJ MN=09 REP_NUM=2 -----

TAXON	GROUP	NUM
BOSMINA LONGIROSTRIS	CLADOCERA	8281
CERIODAPHNIA IMM.	CLADOCERA	31
CERIODAPHNIA LACUSTRIS	CLADOCERA	1
CHYDORUS SP.	CLADOCERA	63
DIAPHANOSOMA LEUCHTENBERGIANUM	CLADOCERA	156
ILYOCRYPTUS SPINIFER	CLADOCERA	1
LEPTODORA KINDTII	CLADOCERA	1
SIDA CRYSTALLINA	CLADOCERA	3
CALANOIDA IMM.	COPEPODA	31
CYCLOPIDA IMM.	COPEPODA	750
CYCLOPS VERNALIS	COPEPODA	1
DIAPTOMUS PALLIDUS	COPEPODA	1
DIAPTOMUS REIGHARDI	COPEPODA	1
ERGASILUS SP.	COPEPODA	31
MESOCYCLOPS EDAX	COPEPODA	1
NAUPLII	COPEPODA	3313
TROPOCYCLOPS PRASINUS	COPEPODA	3
ASPLANCHNA HERRICKI	ROTIFERA	1625
BRACHIONUS ANGULARIS	ROTIFERA	31
BRACHIONUS CAUDATUS	ROTIFERA	31
BRACHIONUS QUADRIDENTATUS	ROTIFERA	63
CONCHILIOIDES SP.	ROTIFERA	31
MEKARTHRA MIRA	ROTIFERA	31
KERATELLA COCHLEARIS	ROTIFERA	188
KERATELLA CRASSA	ROTIFERA	156
KERATELLA EARLINA	ROTIFERA	63
PLATYIAS PATULUS	ROTIFERA	31
PLOESOMA HUDSONI	ROTIFERA	31
PLOESOMA TRUNCATA	ROTIFERA	63
POLYARTHRA SP.	ROTIFERA	750
SYNCHAETA SP.	ROTIFERA	2094

DOT TASK 3 ZOOPLANKTON LISTING
SEPTEMBER 24, 1979

18

----- RIVER=TENNESSEE RIVER YEAR=79 RIV_MILE=350.0 SAM_LOC=AJ MN=09 REP_NUM=3 -----

TAXON	GROUP	NUM
BOSMINA LONGIROSTRIS	CLADOCERA	9599
CERIODAPHNIA IMM.	CLADOCERA	1
CERIODAPHNIA LACUSTRIS	CLADOCERA	1
CHYDORUS SP.	CLADOCERA	307
DIAPHANOSOMA LEUCHTENBERGIANUM	CLADOCERA	1
LEPTODORA KINDTII	CLADOCERA	3
SIDA CRYSTALLINA	CLADOCERA	1
SIMOCEPHALUS IMM.	COPEPODA	2
CALANOIDA IMM.	COPEPODA	684
CYCLOPOIDA IMM.	COPEPODA	1
CYCLOPS VERNALIS	COPEPODA	1
DIAPTOMUS REIGHARDI	COPEPODA	47
ERGASILUS IMM.	COPEPODA	24
ERGASILUS SP.	COPEPODA	1
MESOCYCLOPS EDAX	COPEPODA	3019
NAUPLII	COPEPODA	24
TROPICOCYCLOPS PRASINUS	COPEPODA	1934
ASPLANCHNA HERRICKI	ROTIFERA	189
BRACHIONUS ANGULARIS	ROTIFERA	24
BRACHIONUS BUDAPESTINENSIS	ROTIFERA	94
BRACHIONUS QUADRIDENTATUS	ROTIFERA	24
CONCHILIOIDES SP.	ROTIFERA	47
CONCHILUS UNICORNIS	ROTIFERA	71
HEXARTHRA MIRA	ROTIFERA	94
KERATELLA COCHLEARIS	ROTIFERA	94
KERATELLA CRASSA	ROTIFERA	71
PLEESONA HUDSONI	ROTIFERA	24
PLEESONA TRUNCATA	ROTIFERA	519
POLYARTHRA SP.	ROTIFERA	3939
SYNCHAETA SP.	ROTIFERA	

DOT TASK 3 ZOOPLANKTON CALCULATIONS
SEPTEMBER 24, 1979

7

----- MN#09 -----

SAH_LOG-AD

RIV_MILE#330.0

YEAR#79

TAXON	GROUP	MEAN
ALONA COSTATA	CLADOCERA	1
BOSMINA LONGIROSTRIS	CLADOCERA	7285
CERIODAPHNIA IMH.	CLADOCERA	4
CERIODAPHNIA LACUSTRIS	CLADOCERA	1
CHYDORUS SP.	CLADOCERA	6
DAPHNIA IMH.	CLADOCERA	1
DAPHNIA RETROCURVA	CLADOCERA	1
DIAPHANOSOMA LEUCHTENBERGIANUM	CLADOCERA	95
ELYOCRYPTUS SPINIFER	CLADOCERA	1
LEPTODORA KINDTII	CLADOCERA	1
PLEUROXUS MANULATUS	CLADOCERA	1
SIDA CRYSTALLINA	CLADOCERA	1
SIMOCEPHALUS VETULUS	CLADOCERA	1
CALANOIDA IMH.	COPEPODA	14
CYCLOPOIDA IMH.	COPEPODA	934
CYCLOPS VERNALIS	COPEPODA	1
DIAPTOMUS PALLIDUS	COPEPODA	1
DIAPTOMUS REICHHARDI	COPEPODA	1
ERGASILUS IMH.	COPEPODA	26
ERGASILUS SP.	COPEPODA	21
EUCYCLOPS AGILIS	COPEPODA	1
MESOCYCLOPS EDAX	COPEPODA	1
NAUPLII	COPEPODA	2184
TROPICOCYCLOPS PRASINUS	COPEPODA	21
ASPLANCHNA HERRICKI	ROTIFERA	986
BRACHIONUS ANGULARIS	ROTIFERA	129
BRACHIONUS BUDAPESTINENSIS	ROTIFERA	48
BRACHIONUS CALYCIFLORUS	ROTIFERA	6
BRACHIONUS CAUDATUS	ROTIFERA	28
BRACHIONUS QUADRIDENTATUS	ROTIFERA	48
COLLUTHECA SP.	ROTIFERA	19
CONCHILIOIDES SP.	ROTIFERA	46
CONCHILUS UNICORNIS	ROTIFERA	46
HEXARTHRA MIRA	ROTIFERA	65
KERATELLA COCHLEARIS	ROTIFERA	195
KERATELLA CRASSA	ROTIFERA	81
KERATELLA EARLINA	ROTIFERA	12
PLOESOMA HUDSONI	ROTIFERA	29
PLOESOMA TRUNCATA	ROTIFERA	10
POLYARTHA SP.	ROTIFERA	702
SYNCHAETA SP.	ROTIFERA	1657
TRICHOCCERCA SP.	ROTIFERA	38

DOT TASK 3 ZOOPLANKTON LISTING
SEPTEMBER 24, 1979

19

----- RIVER-TENNESSEE RIVER YEAR=79 RIV_MILE=350.0 SAM_LOC=AD MH=09 REP_NUM=1 -----

TAXON	GROUP	NUM
ALONA COSTATA	CLADOCERA	1
BOSMINA LONGIROSTRIS	CLADOCERA	4223
CERIODAPHNIA IMM.	CLADOCERA	13
CERIODAPHNIA LACUSTRIS	CLADOCERA	1
CHYDORUS SP.	CLADOCERA	1
DAPHNIA IMM.	CLADOCERA	1
DAPHNIA RETROCURVA	CLADOCERA	1
DIAPHANOSOMA LEUCHTENBERGIANUM	CLADOCERA	78
LEPTODORA KIROTTII	CLADOCERA	1
PLEUROXUS HAMULATUS	CLADOCERA	1
SIDA CRYSTALLINA	CLADOCERA	1
CALANOIDA IMM.	COPEPODA	3
CYCLOPOIDA IMM.	COPEPODA	492
CYCLOPS VERNALIS	COPEPODA	1
DIAPTOMUS PALLIDUS	COPEPODA	1
DIAPTOMUS REICHHARDI	COPEPODA	1
ERGASILUS IMM.	COPEPODA	26
ERGASILUS SP.	COPEPODA	13
EUCYCLOPS AGILIS	COPEPODA	1
MESOCYCLOPS EDAX	COPEPODA	1
NAUPLII	COPEPODA	1451
TROPICOCYCLOPS PRASINUS	COPEPODA	26
ASPLANCHIA HERRICKI	ROTIFERA	479
BRACHIONUS ANGULARIS	ROTIFERA	91
BRACHIONUS BUDAPESTINENSIS	ROTIFERA	13
BRACHIONUS CAUDATUS	ROTIFERA	26
COLLOTMECA SP.	ROTIFERA	26
COMOCHILIDES SP.	ROTIFERA	13
COMOCHILUS UNICORNIS	ROTIFERA	39
HEXARTHRA MIRA	ROTIFERA	13
KERATELLA COCHLEARIS	ROTIFERA	78
KERATELLA CRASSA	ROTIFERA	26
PLEOSOMA TRUNCATA	ROTIFERA	13
POLYARTHRA SP.	ROTIFERA	337
SYNCHAETA SP.	ROTIFERA	725
TRICHOCCERCA SP.	ROTIFERA	26

DOT TASK 5 ZOOPLANKTON LISTING
SEPTEMBER 24, 1979

20

TAXON	GROUP	NUM
ROSMINA LONGIROSTRIS	CLADOCERA	8700
CERIODAPHNIA IMH.	CLADOCERA	1
CERIODAPHNIA LACUSTRIS	CLADOCERA	1
CHYDORUS SP.	CLADOCERA	19
DIAPHANUSOMA LEUCHTENBERGIANUM	CLADOCERA	115
ILYOCRYPTUS SPINIFER	CLADOCERA	1
SIDA CRYSTALLINA	CLADOCERA	1
SIMOCEPHALUS VETULUS	CLADOCERA	1
CALANQIDA IMH.	COPEPODA	38
CYCLOPOIDA IMH.	COPEPODA	423
CYCLOPS VERNALIS	COPEPODA	1
DIAPYOMUS PALLIDUS	COPEPODA	1
DIAPYOMUS REIGHARDI	COPEPODA	1
ERGASILUS IMH.	COPEPODA	19
ERGASILUS SP.	COPEPODA	19
YESOCYCLOPS EDAX	COPEPODA	1
NAUPLII	COPEPODA	2530
TROPYCYCLOPS PRASINUS	COPEPODA	38
ASPLANCHIA HERRICKI	ROTIFERA	654
BRACHIONUS ANGULARIS	ROTIFERA	173
BRACHIONUS BUDAPESTINENSIS	ROTIFERA	38
BRACHIONUS CALYCIFLORUS	ROTIFERA	19
BRACHIONUS CAUDATUS	ROTIFERA	58
BRACHIONUS QUADRIDENTATUS	ROTIFERA	19
CONCHILUS UNICORNIS	ROTIFERA	38
HEXARTHRA MIRA	ROTIFERA	58
KERATELLA COCHLEARIS	ROTIFERA	280
KERATELLA CRASSA	ROTIFERA	154
KERATELLA EARLINA	ROTIFERA	38
PLOESOMA HUDSONI	ROTIFERA	58
PLOESOMA TRUNCATA	ROTIFERA	19
POLYARTHRA SP.	ROTIFERA	769
SYNCHAETA SP.	ROTIFERA	2050
TRICHOCCERCA SP.	ROTIFERA	58

RIVER-TENNESSEE RIVER YEAR=79 RIV-MILE=350.0 SAM-LOC=AD MN=09 REP_NUM=2

DOT TASK 5 ZOOPLANKTON LISTING
SEPTEMBER 24, 1979

21

----- RIVER TENNESSEE RIVER YEAR=79 RIV_MILE=350.0 SAN_LDC=AO MN=09 REP_NUM=9 -----

TAXON	GROUP	NUM
BOSMINA LONGIROSTRIS	CLADOCERA	8844
CERIODAPHNIA LACUSTRIS	CLADOCERA	1
DIAPHANOSOMA LEUCHTENBERGIANUM	CLADOCERA	94
LEPTODORA KINDTII	CLADOCERA	1
SIDA CRYSTALLINA	CLADOCERA	1
CALANOIDA IMM.	COPEPODA	2
CYCLOPOIDA IMM.	COPEPODA	688
CYCLOPS VERNALIS	COPEPODA	1
DIAPTOMUS REIGHARDI	COPEPODA	1
ERGASILUS IMM.	COPEPODA	63
ERGASILUS SP.	COPEPODA	31
MESOCYCLOPS EDAX	COPEPODA	1
NAUPLII	COPEPODA	2563
TROPICOCYCLOPS PRASINUS	COPEPODA	1
ASPLANCHNA HERRICKI	ROTIFERA	625
BRACHIONUS ANGULARIS	ROTIFERA	125
BRACHIONUS BUDAPESTINENSIS	ROTIFERA	94
BRACHIONUS QUADRIDENTATUS	ROTIFERA	125
COLLOTMECA SP.	ROTIFERA	31
CONCHILIOIDES SP.	ROTIFERA	125
CONCHILUS UNICORNIS	ROTIFERA	69
HEXARTHA MIRA	ROTIFERA	125
KERATELLA COCHLEARIS	ROTIFERA	219
KERATELLA CRASSA	ROTIFERA	63
PLESOMA HUDSONI	ROTIFERA	31
POLYARTHA SP.	ROTIFERA	1000
SYNCHAETA SP.	ROTIFERA	2188
TRICHOCCERCA SP.	ROTIFERA	31

OCCURRENCE AND ABUNDANCE OF BENTHIC MACROINVERTEBRATE
FAUNA COLLECTED BY GRAB SAMPLING
DURING LATE SUMMER/EARLY FALL
(AVERAGE NUMBER/METER²)

[illegible]

Table 5-9

OCCURRENCE AND ABUNDANCE OF BENTHIC MACROINVERTEBRATE
FAUNA COLLECTED BY GRAB SAMPLING
DURING LATE SUMMER/EARLY FALL
(AVERAGE NUMBER/METER²)
(continued)

Taxa	TRM ^a 350.0			TRM 345.3		HSBM ^b	HSBM	HSBM	HSBM	BFCM ^c	ICM ^d	ERM ^e
	L ^f	M ^g	R ^h	L	R	5.9	5.37	2.4	1.3	1.2	0.0	20.7
Ephemeroptera												
Caenidae												
Caenis sp.	-	-	-	-	-	-	-	-	-	-	2	-
Ephemeridae												
Hexagenia sp.	278	60	24	4	-	-	-	-	-	2	16	522
Trichoptera												
Hydropsychidae												
Cheumatopsyche sp.	-	-	-	-	6	-	-	-	-	-	-	-
Psychomyiidae												
Cyrnellus sp.	-	-	-	2	6	-	-	-	-	-	-	-
Meganota												
Corduliidae												
Neurocordulia sp.	-	-	-	-	-	-	4	-	-	-	-	-
Gomphidae												
Dromogomphus sp.	-	-	-	-	2	-	-	-	-	-	-	-
Gomphus sp.	-	-	-	-	-	-	-	-	4	-	-	-
Libellulidae												
Perithemis sp.	-	-	-	-	-	-	2	-	-	-	-	-
Macromiidae												
Didymops sp.	-	-	-	-	-	-	-	-	-	-	2	-
Amphipoda												
Tubificidae	52	30	163	20	2	612	2075	119	153	181	129	32
Branchiura sp.	8	16	6	2	-	20	44	38	2	87	2	199
Hirudinea												
Glossiphoniidae	2	2	12	-	-	-	-	-	-	-	42	-
Nemata												
	-	2	-	-	-	-	-	2	2	-	-	-
Lophozoa												
Lophopodidae												
Pectinatella sp.	-	-	8	-	-	-	-	-	14	-	4	-
Isopoda												
Asellidae												
Asellus sp.	-	-	-	-	-	2	6	-	-	-	-	-

Table 5-9

OCCURRENCE AND ABUNDANCE OF BENTHIC MACROINVERTEBRATE
FAUNA COLLECTED BY GRAB SAMPLING
DURING LATE SUMMER/EARLY FALL
(AVERAGE NUMBER/METER²)
 (continued)

Taxa	TRM ^a 350.0			TRM 345.3		HSBM ^b	HSEM	HSBM	HSBM	BFCM ^c	ICM ^d	ERM ^e
	L ^f	M ^g	R ^h	L	R	5.9	5.37	2.4	1.3	1.2	0.0	20.7
Megaloptera												
Sialidae												
<u>Sialis</u> sp.	4	-	-	-	-	-	-	-	-	-	-	-
Coleoptera												
Elmidae												
<u>Dubiraphia</u> sp.	-	-	-	-	-	-	-	-	-	-	-	2
<u>Macronychus</u> sp.	-	-	-	-	-	-	-	-	-	-	-	2

- a. Tennessee River Mile.
 b. Huntsville Spring Branch Mile.
 c. Barren Fork Creek Mile.
 d. Indian Creek Mile.
 e. Elk River Mile.
 f. Sample collected from left overbank.
 g. Sample collected from midchannel.
 h. Sample collected from right overbank.
 i. Taxa not found.

Table 5-10

MACROINVERTEBRATE TAXA OCCURRENCE AND ABUNDANCE AS
DOCUMENTED FROM HESTER-DENDY TRAP SAMPLERS
DURING LATE SUMMER/EARLY FALL
(AVERAGE NUMBER/METER²)

Taxa	TRM ^a 350.0	TRM 345.2	HSBM ^b 5.9	HSBM 5.37	HSBM 2.4	HSBM 1.3	BFCM ^c 1.2	ICM ^d 0.0
Diptera								
Empididae	- ^e	23	-	-	-	-	-	-
Ceratopogonidae	-	-	-	-	-	-	8	-
Chironomidae								
<u>Ablabesmyia</u> sp.	-	-	31	15	23	23	38	-
<u>Chironomus</u> sp.	-	-	608	15	-	-	-	-
<u>Cricotopus</u> sp.	131	85	-	-	-	-	-	-
<u>Dicrotendipes</u> sp.	8	-	723	854	1238	2315	2862	315
<u>Glyptotendipes</u> sp.	-	-	777	1346	1169	2354	5569	2285
<u>Polypedilum</u> sp.	-	8	-	-	-	-	-	-
Mollusca								
<u>Corbicula</u> sp.	-	-	-	-	-	-	8	-
Ephemeroptera								
Caenidae								
<u>Caenis</u> sp.	-	-	-	-	-	-	23	-
Heptageniidae								
<u>Stenacron</u> sp.	8	-	-	-	-	-	-	-
Tricorythidae								
<u>Tricorythodes</u> sp.	-	62	-	-	-	-	-	-
Trichoptera								
Hydropsychidae								
<u>Cheumatopsyche</u> sp.	3323	6915	-	-	-	-	-	-
<u>Hydropsyche</u> sp.	38	9185	-	-	-	-	-	-
Psychomyiidae								
<u>Crynellus</u> sp.	23	23	-	-	-	-	108	-
<u>Neureclipsis</u> sp.	8	-	-	-	-	-	-	-
Odonata								
Coenagrionidae								
<u>Argia</u> sp.	-	-	-	-	-	-	-	15
Oligochaetae								
Tubificidae	-	-	23	-	-	15	-	-
Naididae	-	8	-	-	-	-	-	-
Nemata	8	-	-	-	-	-	8	31
Tricladida								
Planariidae								
<u>Dugesia</u> sp.	31	-	-	-	-	-	-	-

Table 5-10

MACROINVERTEBRATE TAXA OCCURRENCE AND ABUNDANCE AS
DOCUMENTED FROM HESTER-DENDY TRAP SAMPLERS
DURING LATE SUMMER/EARLY FALL
(AVERAGE NUMBER/METER²)
 (continued)

<u>Taxa</u>	<u>TRM^a</u>	<u>TRM</u>	<u>HSBM^b</u>	<u>HSBM</u>	<u>HSBM</u>	<u>HSBM</u>	<u>BFCM^c</u>	<u>ICM^d</u>
	<u>350.0</u>	<u>345.2</u>	<u>5.9</u>	<u>5.37</u>	<u>2.4</u>	<u>1.3</u>	<u>1.2</u>	<u>0.0</u>
Amphipoda								
Talitridae								
<u>Hyaletella</u> sp.	38	-	-	-	-	-	-	-

- a. Tennessee River Mile.
 b. Huntsville Spring Branch Mile.
 c. Barren Fork Creek Mile.
 d. Indian Creek Mile.
 e. Taxa not found.

Table. 5-11

RESULTS OF MICROSCOPICAL ANALYSIS OF ZOOPLANKTON SAMPLES
ANALYZED FOR PERCENTAGE COMPOSITION BY ZOOPLANKTON, OTHER
ORGANIC MATTER, AND INORGANIC MATTER
DURING LATE FALL/EARLY WINTER

<u>River Mile</u>	<u>Date</u>	<u>Replicate Number</u>	<u>Number of Subsamples</u>	<u>Mean Percentage</u>		
				<u>Zooplankton</u>	<u>Other Organics</u>	<u>Inorganic</u>
HSBM 5.9	12-16-79	1C	10	0.9	96.3	2.8
		2C	10	0.6	98.0	1.4
		3C	10	0.4	98.5	1.2
HSBM 2.4	12-15-79	1C	10	2.4	88.5	9.1
		2C	10	4.9	88.1	7.0
		3C	10	3.0	90.7	6.3
ICM 4.6	12-15-79	1C	10	1.6	90.0	8.4
		2C	10	0.6	94.7	4.7
		3C	10	1.3	96.7	2.0
ICM 0.8	12-16-79	1C	10	5.7	92.7	1.7
		2C	10	21.0	78.3	0.6
		3C*	10	34.6	64.2	1.2
		3C**	10	36.2	63.1	0.7
		3C***	10	25.5	74.5	0.0

* Sample was diluted to 40 mL, whole sample counted.

** Sample was diluted to 80 mL, 40 mL counted.

*** Sample was diluted to 120 mL, 40 mL counted.

OCCURRENCE AND ABUNDANCE OF PHYTOPLANKTON TAXA IN SAMPLES COLLECTED
DURING LATE SUMMER/EARLY FALL
(AVERAGE NUMBER/LITER)

	TRM 350.0 ^a			TRM 345.2			TRM 315.0		
	L ^b	M ^c	R ^d	L	M	R	L	M	R
CRYPTOPHYTA									
Achnanthes sp.	11,422 _h	3,115	25,958	12,460	10,383	8,307	3,115	3,115	3,115
Acerionella sp.	-	-	-	4,153	-	-	-	-	-
Attheya sp.	-	1,038	-	-	-	-	-	-	-
Chaetoceros sp.	6,230	-	8,307	6,230	3,115	-	-	-	-
Characlopsis sp.	-	-	-	-	-	-	-	-	-
Cocconeis sp.	1,038	1,038	3,115	-	-	-	-	-	-
Cyclotella sp.	-	-	-	-	-	1,038	-	1,038	-
Gymbella sp.	-	-	-	-	-	1,038	-	-	-
Diatoma sp.	-	-	-	-	-	-	-	-	-
Dichotomococcus sp.	-	-	-	7,268	-	-	6,230	-	-
Dinobryon sp.	3,115	2,077	1,038	-	-	-	-	-	4,153
Fragilaria sp.	-	-	1,038	-	-	-	-	-	-
Gomphonema sp.	3,115	-	1,038	-	-	-	-	-	-
Gyrodinium sp.	-	-	-	-	-	-	-	-	-
Melosira sp.	575,237	414,295	463,097	788,095	609,502	210,782	427,793	372,762	586,658
Nitzschia sp.	-	3,115	1,038	-	2,077	1,038	-	-	1,038
Nitzschia sp.	-	-	1,038	1,038	-	1,038	1,038	1,038	-
Rhodolenia sp.	5,192	2,077	3,115	-	2,077	-	-	-	1,038
Rhoicosphenia sp.	1,038	-	-	-	-	-	-	-	-
Stauroneis sp.	-	-	-	-	-	1,038	-	-	-
Stephanodiscus sp.	50,878	29,073	45,687	35,303	32,188	17,652	24,920	13,498	17,652
Surirella sp.	-	-	-	-	-	-	-	-	-
Synedra sp.	42,572	16,613	40,495	25,958	103,833	26,997	21,805	22,843	22,843
Synura sp.	-	-	-	-	-	-	-	-	-
Unidentified Diatom	-	-	-	-	-	-	-	-	-

Table 5-7A (continued)

L	TRM 289.9		R	HSS.9 ^e	HSS.37	HSS.4	HSS.3	HSS.0	BFI.2 ^f	IC4.0 ^g	ICO.0
	M	N									
* 4,153	1,038	1,038	1,038	4,153	5,192	17,652	12,456	4,153	28,035	65,394	137,016
2,077	-	-	-	-	7,268	-	-	-	-	-	-
36,342	-	-	4,153	-	-	-	-	12,460	8,307	3,114	-
3,115	1,038	1,038	1,038	14,537	6,230	19,728	217,980	4,153	45,687	189,954	180,612
-	-	-	2,077	-	1,038	1,038	3,114	-	-	-	-
-	-	-	-	2,077	10,383	7,268	12,456	-	4,153	3,114	3,114
-	-	-	-	-	-	-	-	-	-	-	3,114
-	10,383	-	3,115	-	-	-	-	-	28,035	15,570	12,456
-	-	-	-	-	10,383	13,498	-	-	4,153	-	3,114
-	-	-	-	-	1,038	2,077	-	-	-	-	-
2,458,390	707,105	-	912,695	7,268	-	1,038	-	1,038	2,077	-	-
1,038	329,152	-	3,115	61,262	890,990	1,271,958	28,387,224	548,240	5,315,228	32,862,042	16,080,696
-	-	-	-	12,460	35,303	63,338	180,612	15,575	124,600	112,104	74,736
-	2,077	-	-	-	11,422	3,115	-	-	-	3,114	3,114
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	1,038	-	-	-	-	3,114
103,933	18,690	-	22,843	-	2,077	509,822	1,367,046	11,422	255,430	865,692	1,036,962
-	-	-	-	-	-	-	-	-	3,115	-	3,114
62,300	16,613	-	25,958	25,958	40,495	126,677	843,894	36,342	275,158	473,328	345,654
-	-	-	-	-	-	-	3,114	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-

*Taxa listing identical to preceding page sequence

Table 5-7A
OCCURRENCE AND ABUNDANCE OF PHYTOPLANKTON TAXA IN SAMPLES COLLECTED
DURING LATE SUMMER/EARLY FALL
(AVERAGE NUMBER/LITER)
(continued)

	TRM 350.0 ^a			TRM 345.2			TRM 315.0		
	L ^b	M ^c	R ^d	L	M	R	L	M	R
CHLOROPHYTA									
Acanthosphaera sp.	-	-	-	-	-	-	-	-	-
Actinastrum sp.	14,537	29,073	18,690	16,613	16,613	8,307	4,153	-	4,153
Ankistrodesmus sp.	7,268	2,077	-	4,153	1,038	-	6,230	4,153	4,153
Botryococcus sp.	-	-	-	-	-	-	-	-	-
Bracteacoccus sp.	-	3,115	-	-	-	-	-	-	-
Carteria sp.	-	-	-	-	-	-	-	-	-
Chlamydomonas sp.	88,258	74,760	77,875	38,418	28,035	21,805	-	-	23,882
Chlorella sp.	19,728	15,575	7,268	14,537	18,690	12,460	26,997	22,843	26,997
Chlorococcum sp.	-	-	-	-	-	-	-	-	-
Chlorogonium sp.	1,038	-	-	-	-	-	-	-	-
Chodatella sp.	4,153	5,192	4,153	8,307	2,077	-	5,192	4,153	1,038
Closteridium sp.	-	-	1,038	-	-	-	-	-	-
Closteriopsis sp.	-	1,038	-	-	-	-	2,077	-	-
Closterium sp.	-	-	-	-	-	-	-	-	-
Coelastrum sp.	12,460	8,307	-	16,613	-	-	-	-	-
Coenidium sp.	1,038	2,077	1,038	-	1,038	-	-	-	-
Crucigenia sp.	29,073	47,763	8,307	4,153	8,307	8,307	-	24,920	24,920
Dactylococcus sp.	-	-	-	-	-	-	-	-	-
Dictyosphaerium sp.	86,182	29,073	109,025	41,533	19,728	62,300	4,153	23,882	21,805
Elakatothrix sp.	-	-	-	-	-	-	-	-	-
Eudorina sp.	-	9,345	-	-	-	-	-	-	-
Franseria sp.	1,038	2,077	1,038	2,077	2,077	2,077	-	-	-
Gloeocystidium sp.	-	24,920	-	-	-	-	-	-	-
Golenkinia sp.	20,767	18,690	16,613	15,575	9,345	2,077	7,268	4,153	2,077
Gonium sp.	-	-	-	15,575	-	-	-	-	-

Table 5-7A (continued)

TRM 289.9		R		HS5.9 ^e	HS5.37	HS2.4	HS1.3	HS0.0	BF1.2 ^f	IC4.0 ^g	IC0.0
L	M										
94,488	4,395	2,077	-	-	-	-	566,748	12,460	-	-	5,806,4
11,422	2,077	8,307	-	-	-	56,070	330,084	5,192	205,590	541,836	99,648
-	-	4,153	-	8,307	7,268	47,763	-	8,307	76,837	221,094	-
19,728	15,575	4,153	-	-	-	-	28,026	3,115	-	-	-
-	-	-	-	-	-	-	-	-	1,038	155,700	31,140
106,948	20,767	37,380	-	86,182	76,837	386,260	8,706,744	174,440	-	-	3,114
315,653	56,070	30,112	-	-	-	124,600	1,202,004	2,077	742,408	865,692	778,500
-	-	-	-	-	-	-	-	-	258,545	806,526	822,096
3,115	-	5,192	-	-	-	15,575	15,570	6,230	-	-	21,798
2,077	3,115	1,038	-	-	1,038	60,223	211,752	6,230	12,460	12,456	21,798
-	-	-	-	-	-	2,077	-	5,192	28,035	186,840	214,866
4,153	1,038	-	-	1,038	1,038	8,307	28,026	1,038	-	-	-
-	-	-	-	1,038	-	-	12,456	-	-	6,228	3,114
-	-	-	-	1,038	-	-	49,824	-	1,038	3,114	-
-	-	-	-	2,077	-	-	6,228	-	74,760	59,166	68,508
16,613	4,153	4,153	-	4,153	8,307	49,840	653,940	-	-	-	-
82,028	3,115	-	-	-	-	-	-	-	220,127	386,136	351,882
8,307	-	-	-	14,537	-	-	-	-	-	-	12,456
-	-	-	-	-	-	13,498	87,192	30,112	-	24,912	37,368
-	-	2,077	-	-	-	-	373,680	-	-	15,570	-
-	-	-	-	-	-	4,153	-	-	2,077	24,912	-
-	-	-	-	-	-	-	-	-	16,613	-	-
-	-	-	-	-	-	-	-	-	1,038	-	-
4,153	-	-	-	-	-	7,268	49,824	-	33,227	18,684	12,456
25,958	6,230	7,268	-	1,038	1,038	15,575	93,420	15,575	22,843	43,596	37,368
-	-	-	-	4,153	-	-	24,912	14,537	-	-	34,254

*Taxa listing identical to preceding page sequence

Table 5-7A

OCCURRENCE AND ABUNDANCE OF PHYTOPLANKTON TAXA IN SAMPLES COLLECTED
DURING LATE SUMMER/EARLY FALL
(AVERAGE NUMBER/LITER)
(continued)

	TRM 350.0 ^a			TRM 345.2			TRM 315.0		
	L ^b	M ^c	R ^d	L	M	R	L	M	R
CHLOROPHYTA (cont.)									
<i>Byalotheca</i> sp.	33,227	20,767	28,035	-	5,192	8,307	4,153	9,345	-
<i>Kirchneriella</i> sp.	65,415	50,878	31,150	14,537	-	-	8,307	-	12,460
<i>Micractinium</i> sp.	18,690	2,077	-	11,422	16,613	-	2,077	8,307	-
<i>Micrasterias</i> sp.	-	-	-	-	-	-	-	-	-
<i>Oocystis</i> sp.	19,728	9,345	3,115	8,307	4,153	4,153	-	-	2,077
<i>Pandorina</i> sp.	-	16,613	-	-	-	-	-	-	-
<i>Pediastrum</i> sp.	3,115	8,307	-	8,307	49,840	-	31,150	23,882	1,038
<i>Planctonophora</i> sp.	-	-	29,073	-	-	-	-	-	-
<i>Polyedriopsis</i> sp.	-	-	-	-	-	-	-	-	-
<i>Protococcus</i> sp.	104,872	91,373	97,603	186,900	4,153	1,038	1,038	-	-
<i>Pteromonas</i> sp.	3,115	1,038	1,038	-	-	1,038	1,038	-	-
<i>Pyramimonas</i> sp.	-	-	-	-	-	-	-	-	-
<i>Quadrifida</i> sp.	-	6,230	1,038	-	-	-	-	-	-
<i>Roya</i> sp.	-	-	-	-	-	-	-	-	-
<i>Scenedesmus</i> sp.	140,175	116,293	43,610	79,952	50,878	22,843	41,533	64,377	83,067
<i>Schroederia</i> sp.	2,077	1,038	2,077	1,038	-	2,077	1,038	-	3,115
<i>Selenastrum</i> sp.	2,077	1,038	3,115	6,230	4,153	-	4,153	-	9,345
<i>Staurastrum</i> sp.	3,115	-	2,077	-	-	-	-	-	-
<i>Tetradon</i> sp.	5,192	5,192	2,077	3,115	-	-	3,115	1,038	1,038
<i>Tetradium</i> sp.	4,153	-	4,153	-	-	-	4,153	-	4,153
<i>Treubaria</i> sp.	1,038	1,038	1,038	2,077	4,153	-	-	-	7,268
<i>Trochiscia</i> sp.	2,077	1,038	3,115	-	1,038	-	-	-	2,077
Unidentified Green Colony	80,990	-	-	-	-	-	-	62,300	24,920
Unidentified (<i>Treubaria</i> ?)	-	1,038	2,077	-	2,077	-	-	-	1,038

Table 5-7A (continued)

L	TRM 289.9			R	HS5.9 ^e	HS5.37	HS2.4	HS1.3	HSO.0	BFL.2 ^f	IC4.0 ^g	ICO.0
	M	H										
* 12,460	-	-	-	-	-	-	-	6,228	-	1,038	-	-
71,645	12,460	4,153	-	-	4,153	1,038	56,070	99,648	11,422	120,447	43,596	292,716
34,265	13,498	-	-	-	-	-	22,843	37,368	2,077	19,728	152,586	242,892
1,038	-	-	-	-	-	-	-	-	-	-	-	-
5,192	-	4,153	-	4,153	-	-	3,115	124,560	-	8,307	34,254	-
-	-	33,227	-	33,227	-	-	-	99,648	-	-	-	-
-	4,153	18,690	-	18,690	-	33,227	-	-	8,307	63,338	146,358	102,762
-	-	-	-	-	-	-	-	-	-	-	49,824	-
99,680	-	-	-	-	8,307	-	55,032	597,888	43,610	148,482	280,260	211,752
2,077	-	-	-	1,038	-	1,038	1,038	-	-	3,115	3,114	9,342
1,038	-	-	-	1,038	-	-	1,038	9,342	1,038	6,230	18,684	34,254
-	-	-	-	-	-	-	-	-	-	11,422	-	-
187,938	67,492	53,993	-	-	-	-	371,723	2,391,552	3,114	-	6,228	3,114
11,422	-	1,038	-	-	43,610	22,843	7,268	46,710	103,833	936,577	2,260,764	1,488,492
19,728	3,115	7,268	-	-	6,230	2,077	72,683	738,018	6,230	20,767	161,928	137,016
-	-	-	-	-	-	6,230	-	-	1,038	161,980	292,716	354,996
-	2,077	1,038	-	-	-	-	22,843	124,560	4,153	59,185	121,446	115,218
-	-	-	-	-	-	7,268	20,767	99,648	-	74,760	292,716	68,508
1,038	-	-	-	-	-	-	2,077	3,114	-	12,460	18,684	9,342
1,038	1,038	4,153	-	-	-	-	1,038	-	12,460	268,928	15,570	65,394
-	-	-	-	-	-	-	-	-	-	-	-	-
1,038	-	-	-	-	-	1,038	-	3,114	1,038	6,230	-	3,114

*Taxa listing identical to preceding page sequence

Table 5-7A
OCCURRENCE AND ABUNDANCE OF PHYTOPLANKTON TAXA IN SAMPLES COLLECTED
DURING LATE SUMMER/EARLY FALL
(AVERAGE NUMBER/LITER)
(continued)

	TRM 350.0 ^a			TRM 345.2			TRM 315.0		
	L ^b	M ^c	R ^d	L	M	R	L	M	R
CRYPTOPHYTA									
<i>Cryptomonas</i> sp.	1,038	4,153	-	-	-	-	2,077	-	-
CHLOROPHYTA									
<i>Anabaena</i> sp.	119,408	57,108	142,252	117,332	28,035	48,802	41,533	10,383	8,307
<i>Anabaenopsis</i> sp.	-	-	-	-	-	-	141,213	-	-
<i>Anacystis</i> sp.	2,271,873	901,273	1,407,980	681,147	646,881	194,168	242,970	186,900	97,603
<i>Aphanocapsa</i> sp.	6,230	-	-	-	-	-	-	-	-
<i>Aphanotheca</i> sp.	-	-	-	-	-	-	-	-	-
<i>Chroococcus</i> sp.	51,917	53,993	25,958	-	6,230	33,227	-	-	8,307
<i>Dactylococcopsis</i> sp.	33,227	18,690	8,307	9,345	12,460	3,115	10,383	6,230	6,230
<i>Gleotheca</i> sp.	-	-	-	-	-	-	-	-	-
<i>Lyngbya</i> sp.	3,115	2,077	1,038	2,077	1,038	-	-	1,038	-
<i>Marimopectia</i> sp.	614,693	696,722	680,108	657,265	117,332	294,887	74,760	304,232	103,833
<i>Oscillatoria</i> sp.	33,227	25,958	15,575	24,920	14,537	7,268	3,115	4,153	14,537
<i>Oscillatoria</i> (spiral)	1,038	-	-	-	-	-	-	1,038	1,038
<i>Raphidiopsis</i> sp.	-	-	-	-	-	-	-	-	-
<i>Spirulina</i> sp.	-	-	-	-	-	-	-	-	-
<i>Synochococcus</i> sp.	-	-	-	-	-	-	-	-	-
EUGLENOPHYTA									
<i>Cryptomonas</i> sp.	4,153	1,038	3,115	-	1,038	1,038	1,038	3,115	-
<i>Euglena</i> sp.	3,115	2,077	2,077	-	13,498	-	4,153	1,038	4,153
<i>Phacus</i> sp.	-	-	-	-	-	-	-	-	-
<i>Trachelomonas</i> sp.	-	-	-	1,038	1,038	-	-	-	1,038

Table 5-7A (continued)

IRM 289.9		R		HS5.9 ^e	HS5.37	HS2.4	HS1.3	HS0.0	BF1.2 ^f	IC4.0 ^g	IC0.0
L	M										
* 2,077	4,153	7,268	-	-	1,038	3,115	80,964	12,460	49,840	233,550	120,130
-	17,652	12,460	-	-	-	-	-	271,005	2,077	96,534	72,736
615,732	69,568	129,792	-	137,060	130,830	438,177	1,173,978	207,667	516,052	984,024	734,904
-	-	-	-	-	-	-	124,560	-	-	-	-
8,307	-	12,460	-	-	19,728	2,077	-	4,153	-	-	379,908
63,338	14,537	7,268	-	34,265	15,575	129,792	1,189,548	8,307	200,398	937,314	663,282
-	-	-	-	-	-	-	-	-	-	-	12,456
3,171,070	225,318	182,747	-	15,575	-	1,038	-	1,038	-	6,228	-
13,498	3,115	5,192	-	633,383	519,166	3,561,483	57,512,466	739,293	6,443,897	51,558,498	27,428,112
2,077	-	-	-	118,370	43,610	40,495	274,032	7,268	2,997	71,627	115,218
-	-	-	-	5,192	7,268	14,537	6,228	1,038	12,460	15,570	52,938
-	-	-	-	-	1,038	4,153	6,228	-	-	-	-
-	-	-	-	1,038	2,077	5,192	9,342	-	-	6,228	24,912
-	-	-	-	-	-	-	-	-	2,077	-	-
2,077	1,038	1,038	-	-	-	2,077	37,368	6,230	14,537	37,368	9,342
11,422	-	2,077	-	21,805	24,920	97,603	2,226,510	30,112	181,708	59,166	202,410
-	-	-	-	1,038	1,038	4,153	31,140	-	6,230	9,342	9,342
-	-	-	-	1,038	2,077	4,153	59,166	-	42,572	-	24,912

*Taxa listing identical to preceding page sequence

Table 5-7A

OCCURRENCE AND ABUNDANCE OF PHYTOPLANKTON TAXA IN SAMPLES COLLECTED
DURING LATE SUMMER/EARLY FALL
(AVERAGE NUMBER/LITER)
(continued)

	TRM 35.0 ^a			TRM 345.2			TRM 315.0		
	L ^b	M ^c	R ^d	L	M	R	L	M	R
<i>Glenodinium</i> sp.	-	-	-	-	2,077	-	-	-	-
<i>Gymnodinium</i> sp.	-	-	-	-	1,038	-	-	-	-

PYRROPHYTA

- a. Tennessee River Mile.
- b. Left Overbank.
- c. Midchannel.
- d. Right Overbank.
- e. Huntsville Spring Branch Mile.
- f. Barren Fork Creek Mile.
- g. Indian Creek Mile.

Table 5-7A (continued)

IPM 289.9		R		HS5.9 ^b	HS5.37	HS2.4	HS1.3	HS0.0	BFL2 ^c	IC4.0 ²	IC0.0
L	M										
*	-	-	2,077	1,038	-	-	-	-	6,230	-	-
						2,077					

*Taxa listing identical to preceding page sequence

Appendix

Task 5

Maps of Sampling Sites

SAMPLING LOCATIONS - TASK 5

LCM 18.0
B, W, N, S

HEINTZ BAR LIGHT 3072

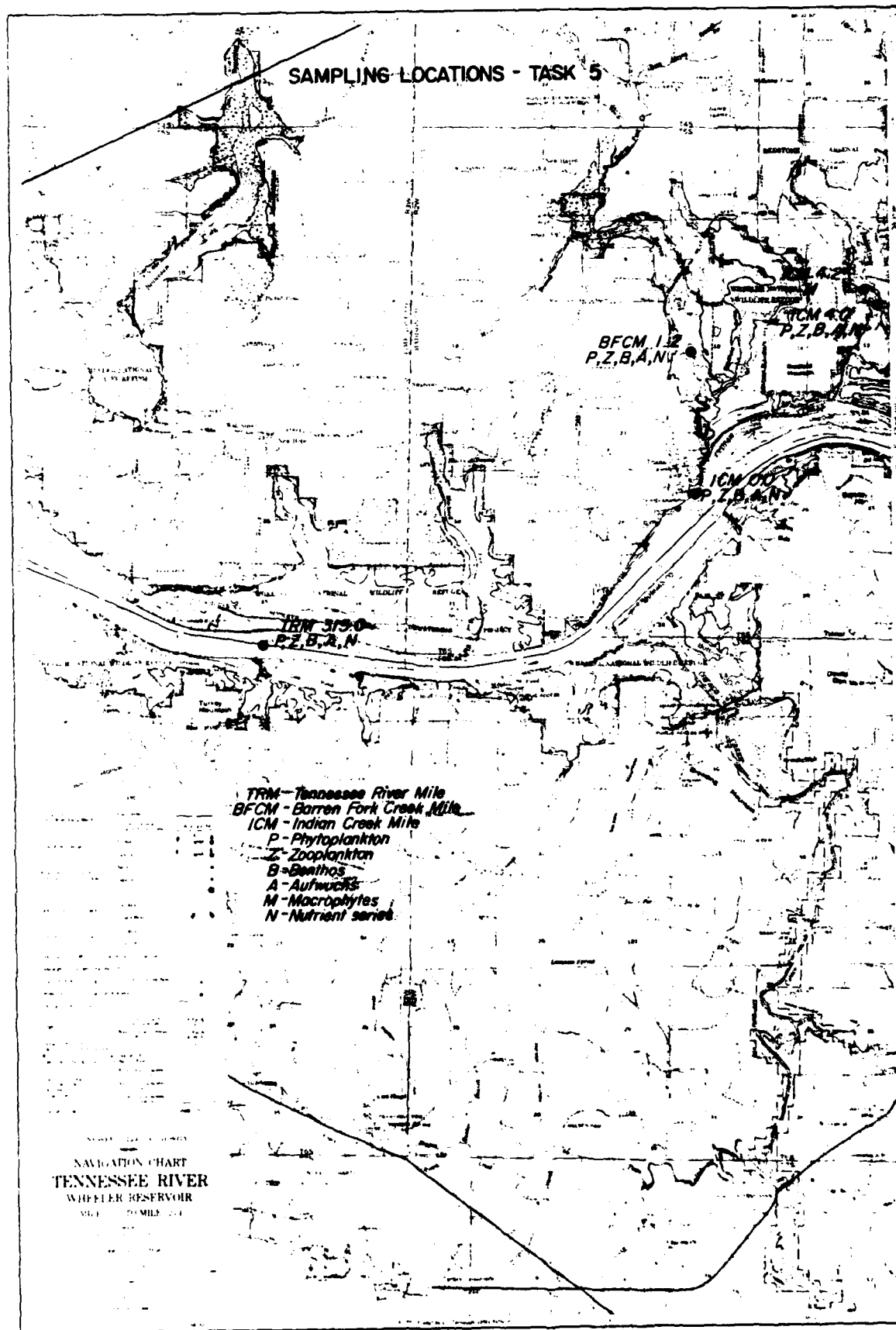
TRM 305.1
M

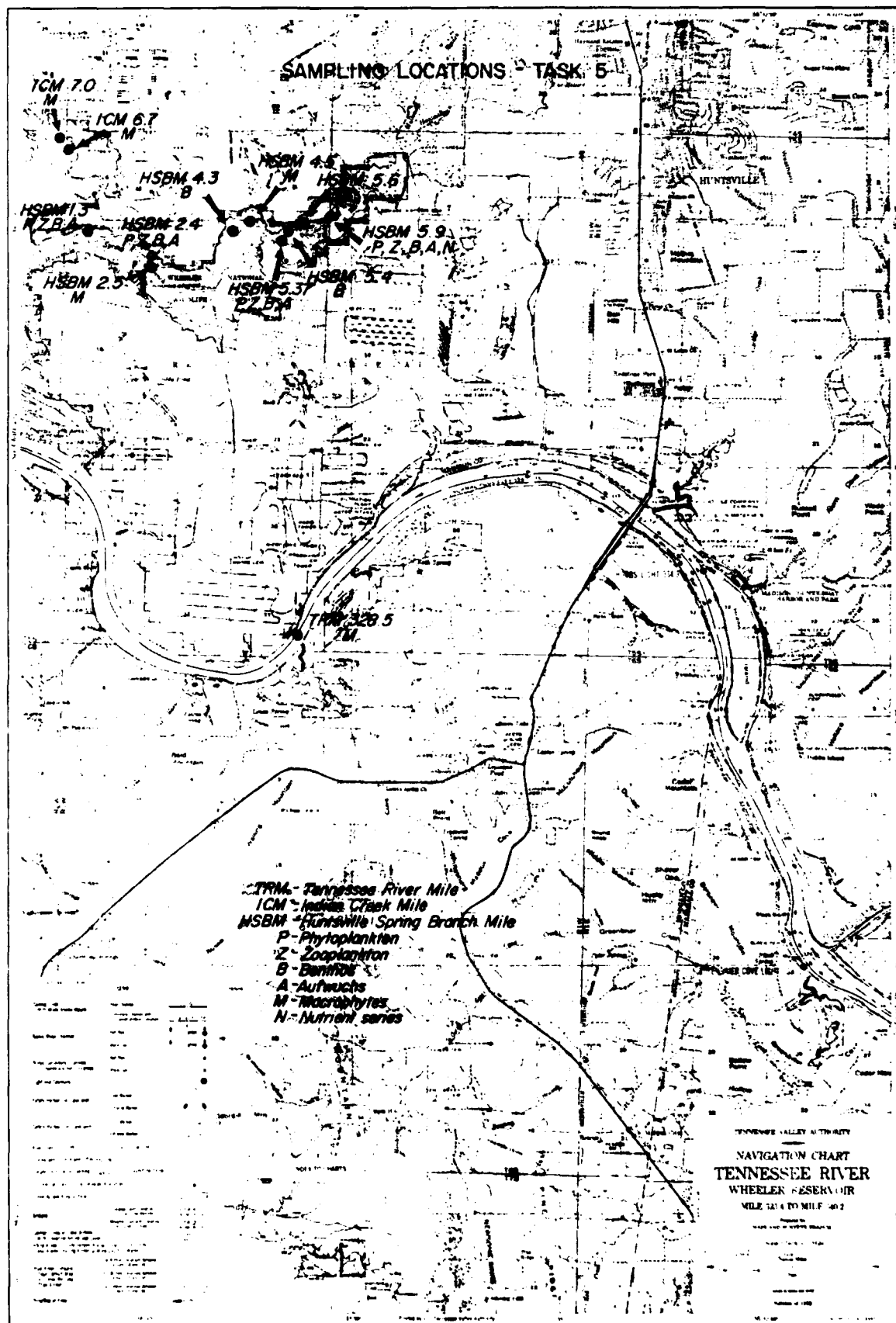
TRANSMISSION TOWER LIGHT 306.0

TRM - Tennessee River Mile
LCM - Limestone Creek Mile
B - Benthos
M - Macroinvertebrates
N - Nutrient series
W - Water
S - Sediment

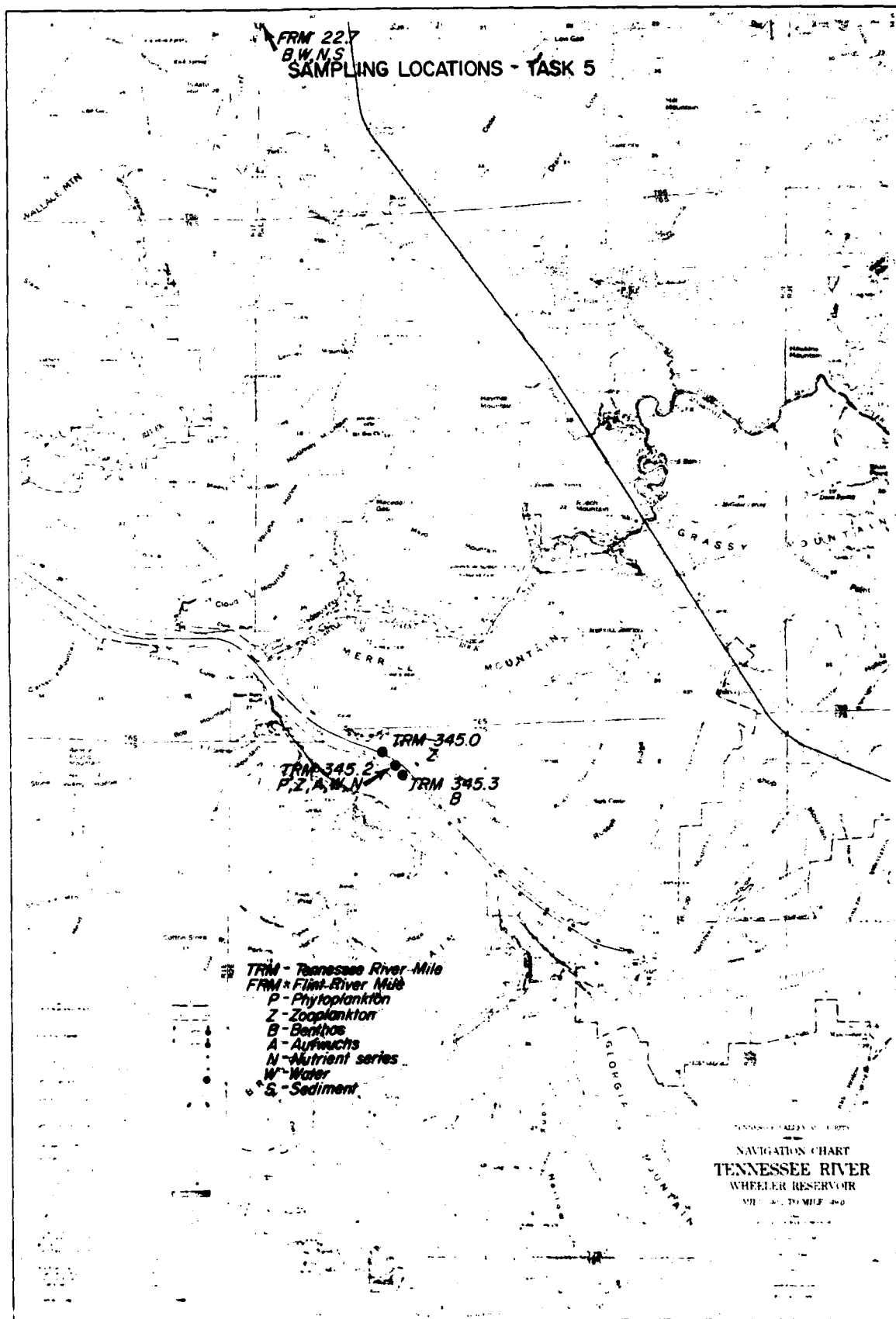
NAVIGATION CHART
TENNESSEE RIVER
WHEELER RESERVOIR
MILE 200.0 TO MILE 322.1

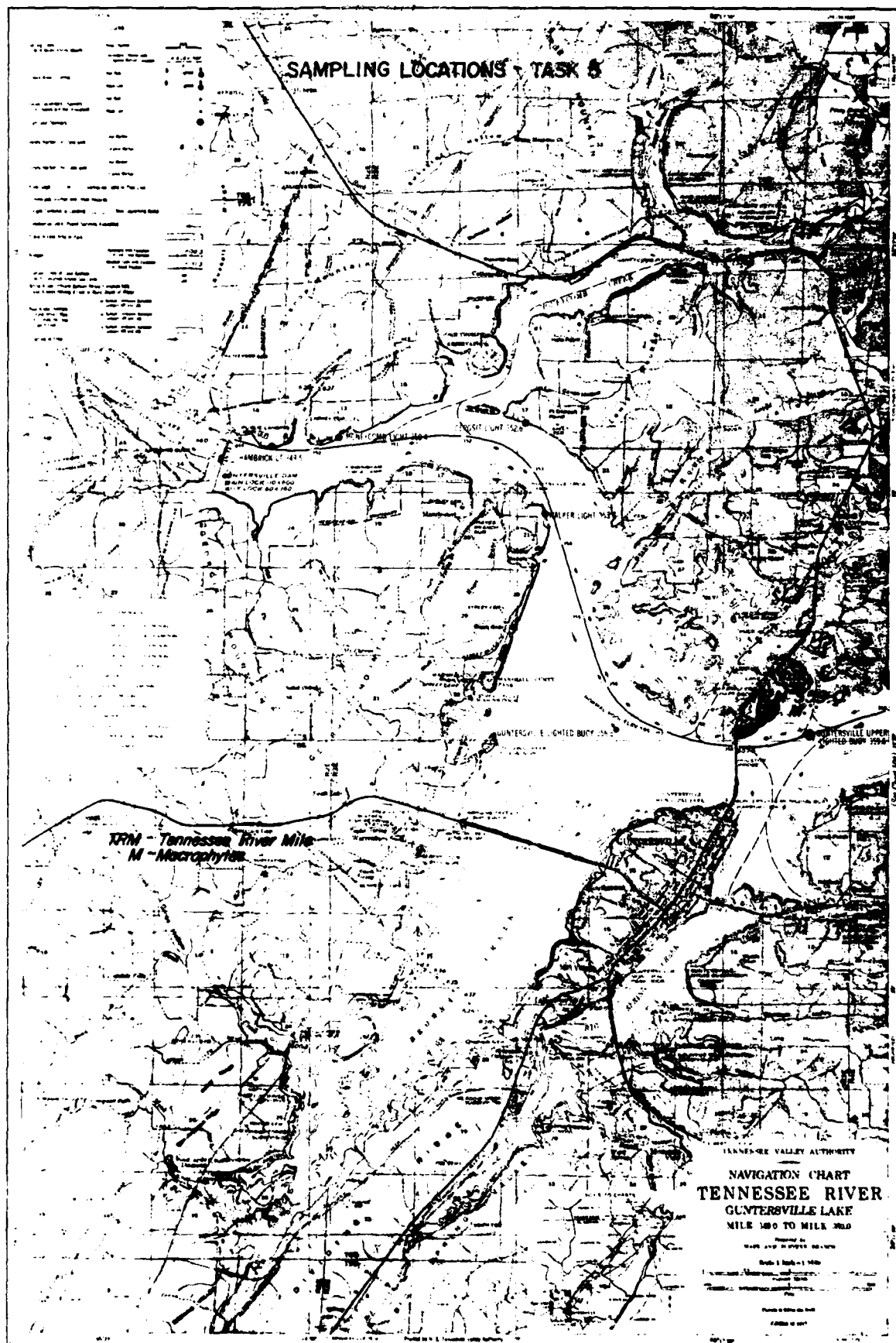
SAMPLING LOCATIONS - TASK 5

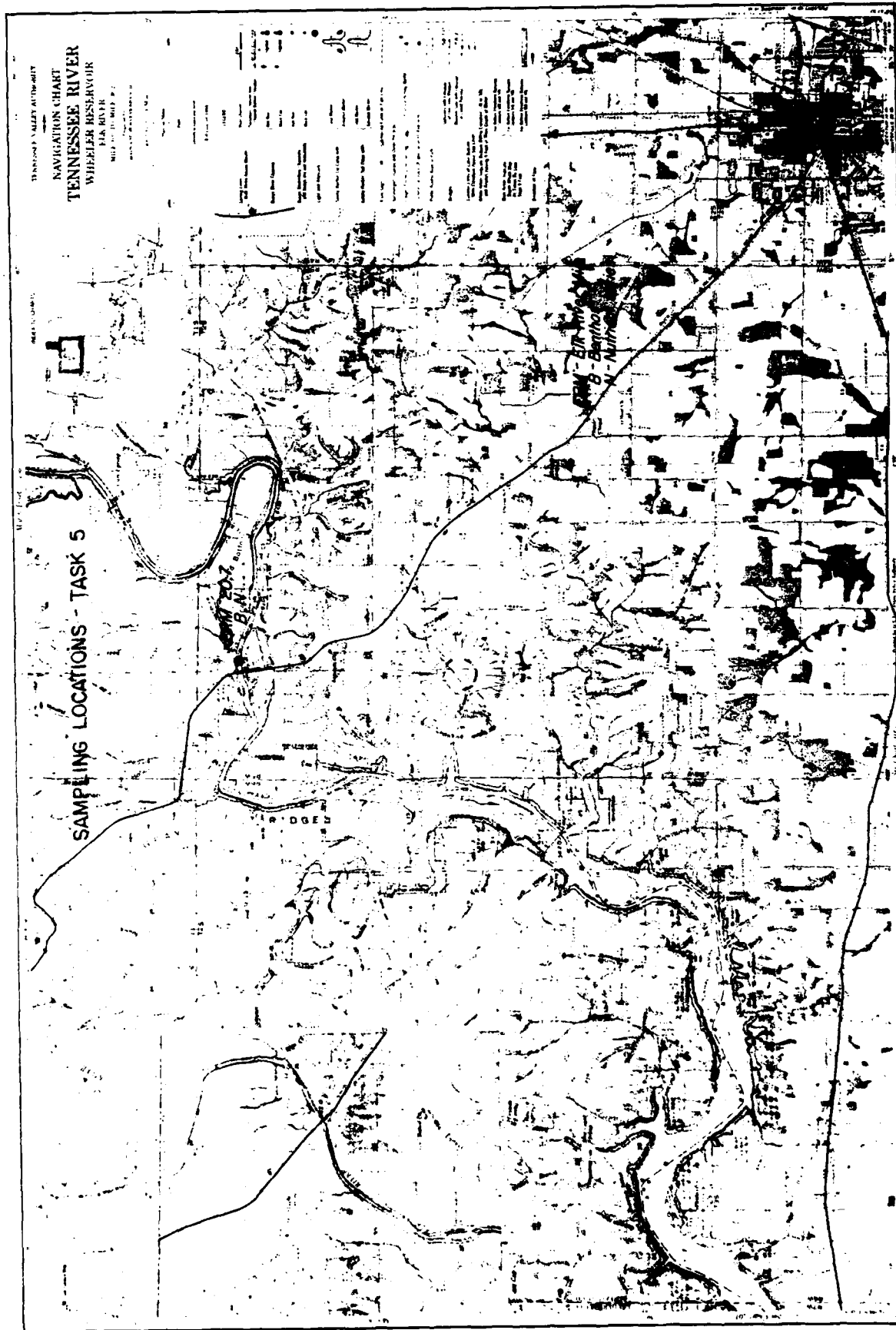




FRM 22.7
B.W.N.S.
SAMPLING LOCATIONS - TASK 5







ENGINEERING AND ENVIRONMENTAL STUDY
OF DDT CONTAMINATION OF HUNTSVILLE
SPRING BRANCH, INDIAN CREEK, AND
ADJACENT LANDS AND WATERS,
WHEELER RESERVOIR, ALABAMA

TASK 6

VOLUME I. HYDROLOGIC AND SEDIMENT DATA

Tennessee Valley Authority
Office of Natural Resources

August 1980

PREFACE

This document was prepared in support of the Engineering and Environmental Study of DDT contamination of Huntsville Spring Branch, Indian Creek, and Adjacent Lands and Waters, Wheeler Reservoir, Alabama, for the U.S. Corps of Engineers.

This document contains information produced in fulfillment of an interagency agreement between the U.S. Corps of Engineers and the Tennessee Valley Authority (TVA Contract No. TV-52305A).

CONTENTS

	<u>Page</u>
Preface	111
List of Figures	v
List of Tables	vi
1.0 Purpose and Scope	1
1.1 Purpose	1
1.2 Scope	1
2.0 Instrumentation	3
3.0 Sample Collection	12
3.1 Sampling Schedule	12
3.2 Discharge Measurements	12
3.3 Water Quality Samples	31
4.0 Sample Handling and Laboratory Methodology	33
5.0 Data Tabulations	35
5.1 Rainfall Data	35
5.2 Discharge Measurements	45
5.3 Suspended Sediment and DDTR Data	45
5.4 Bed Sediment Data	45
5.5 Special Samples	45
Appendix	75

LIST OF FIGURES

<u>Figure</u>		<u>Page</u>
6-1	General Area Map with Gage Locations	5
6-2	Channel Cross-Section, ICM 0.0	6
6-3	Channel Cross-Section, ICM 1.0	7
6-4	Channel Cross-Section, ICM 4.6	8
6-5	Channel Cross-Section, HSEM 2.4	9
6-6	Channel Cross-Section, HSEM 5.6	10
6-7	Channel Cross-Section, HSEM 5.0 and HSEM 9.7	11
6-8	Observed Stage Graph and Water Quality Sampling Times, HSB at Patton Road, Storms 5 and 6	18
6-9	Observed Stage Graph and Water Quality Sampling Times, HSEM 2.4, Storms 5 and 6	19
6-10	Observed Stage Graph and Water Quality Sampling Times, ICM 4.6, Storms 5 and 6	20
6-11	Observed Stage Graph and Water Quality Sampling Times, ICM 0.0, Storms 5 and 6	21
6-12	Observed Stage Graph and Water Quality Sampling Times, HSB at Patton Road, Storm 7	22
6-13	Observed Stage Graph and Water Quality Sampling Times, HSEM 2.4, Storm 7	23
6-14	Observed State Graph and Water Quality Sampling Times, ICM 4.6, Storm 7	24
6-15	Observed Stage Graph and Water Quality Sampling Times, ICM 0.0, Storm 7	25
6-16	Observed Stage Record, HSEM 5.0, Storms 5 and 6	26
6-17	Observed Stage Record, HSEM 5.0, Storm 7	27
6-18	Observed Stage Record, IC at Martin Road, Storms 5 and 6	28
6-19	Observed Stage Record, IC at Martin Road, Storms 7	29

LIST OF TABLES

<u>Table</u>		<u>Page</u>
6-1	Gage Information	4
6-2	Sampling Schedule, HSB at Patton Road, Storms 5-7	13
6-3	Sampling Schedule, HSEM 2.4, Storms 5-7	14
6-4	Sampling Schedule, ICM 4.6, Storms 5-7	16
6-5	Sampling Schedule, ICM 0.9, Storms 5-7	17
6-6	Hourly Rainfall, August 1979	36
6-7	Hourly Rainfall, September 1979	37
6-8	Hourly Rainfall, October 1979	38
6-9	Hourly Rainfall, November 1979	39
6-10	Hourly Rainfall, December 1979	40
6-11	Hourly Rainfall, January 1980	41
6-12	Hourly Rainfall, February 1980	42
6-13	Hourly Rainfall, March 1980	43
6-14	Hourly Rainfall, April 1980	44
6-15	Discharge Measurement Summary, HSB at Martin Road	46
6-16	Discharge Measurement Summary, HSB at Patton Road	47
6-17	Discharge Measurement Summary, HSEM 5.0	49
6-18	Discharge Measurement Summary, HSBM 2.4	51
6-19	Discharge Measurement Summary, ICM 4.6	54
6-20	Discharge Measurement Summary, ICM 0.9	56
6-21	Discharge Measurement Summary, IC at Martin Road	58
6-22	DDTR-Sediment Concentration Analyses, HSB at Patton Road, Storms 5-7	59
6-23	DDTR-Sediment Concentration Analyses, HSBM 2.4, Storms 5-7	62

LIST OF TABLES (Continued)

<u>Table</u>		<u>Page</u>
6-24	DDTR-Sediment Concentration Analyses, ICM 4.6, Storms 5-7	66
6-25	DDTR-Sediment Concentration Analyses, ICM 0.9, Storms 5-7	69
6-26	Bed Sediment Data	72
6-27	Special Samples	74

Task 6

Hydrologic and Sediment Data

Triana DDT Study

1.0 Purpose and Scope

1.1 Purpose

The purpose of this portion of the study was to determine the amount of sediment and DDTR (DDT isomers and metabolites) transported during various flows to allow the estimation of seasonal and yearly amounts of these materials transported along Huntsville Spring Branch--Indian Creek (HSB-IC); and to investigate the physical processes by which the DDTR is transported.

1.2 Scope

Huntsville Spring Branch and Indian Creek were sampled at four sites. Two upstream sites served to bracket the region which was expected to contain the highest DDTR concentrations and provided values of the study parameters that enter and exit this area along HSB. The third site provided values on IC downstream from the mouth of HSB and the fourth site served to provide data for an estimate of the amount of sediment and DDTR that exits the basin.

During or immediately following several rainfall events, water samples to be analyzed for DDTR were collected near the mouths of all drainage ditches from the landfill area, between the two uppermost sampling sites on HSB.

At the sampling sites, water samples were taken concurrently with streamflow measurements for events 3 through 7. Miscellaneous discharge measurements were made during the first two events. Wheeler

Reservoir elevations fluctuate on an annual cycle between a maximum level of 556 in the early summer, and a minimum level of 550 in the winter. Tests were conducted over an eight month period and over a representative range of Wheeler Reservoir elevations. Samples were also collected on HSB at bridge crossings on Patton Road and Dodd Road (see Table 6-1) during special reservoir operations to investigate the transport of DDTR and sediment when the reservoir was falling.

Continuous stage recorders were installed to provide hydrologic data for backwater computations. Backwater computations were made by use of a computer model to determine continuous storm hydrographs at each of the stations and the relationship between stage changes and flows along HSB and IC. The stage records and slope-related stage-discharge ratings were used as a basis for estimating the duration of flows along HSB and IC. A continuous recording raingage was installed at Patton Road (HSBM 5.9).

The flood discharges for the 10-year, 50-year, 100-year and 500-year floods were computed and the flood limits were defined. Also, discharges for the largest flood that occurred since the DDT plant operations began were computed and the flood limits delineated. Maps showing flooded areas for each of these events were prepared.

For each sample taken in a data set, the suspended sediment concentrations and DDTR concentrations were determined and the loads of each computed. The loads were related to the streamflow to form suspended sediment, DDTR, and DDTR isomer rating curves. Streamflow durations were also estimated at the sampling sites for summer and winter conditions. The rating curves were then related to the streamflow duration to give an estimate of seasonal and yearly quantity of total suspended sediment and maximum total DDTR passing each sampling station.

2.0 Instrumentation Locations

Seven stage recorders were installed to continuously record stream/reservoir elevations. All of the stream stage gages were FW-2 recorders with weekly charts. A recording raingage was installed about 50 feet from the right waters edge and about 20 feet downstream from the bridge over HSB at Patton Road. Rainfall was abstracted in hourly amounts. All gages were serviced weekly. Table 6-1 summarizes information about each of these gages. Figure 6-1 is a map of the study area and shows the location of each of the gages.

The stage recorder at HSB at Martin Road was initially installed to provide an upstream control with a stable stage-discharge relationship. However, after measurements indicated that a stable rating existed at HSB at Patton Road, the Patton Road station was used as the upstream control.

The water quality sampling was not conducted at the stage recorder site on ICM 0.0. Rather the water quality samples and stream-flow measurements were taken at ICM 0.9 where a cable could be stretched across the channel to anchor a boat during the measurements and provide reference verticals.

Figures 6-2 through 6-7 give the available channel cross-section information at each of the gaging stations. The cross-section at ICM 1.0 was included because it is near the downstream sampling station (ICM 0.9). No cross-section was available for ICM 8.2.

Table 6-1

Gage Information

Stream	River Mile	Drainage Area (sq. mi.)	Gage Type*	Latitude	Longitude	Gage Zero	1979 Record Begins	Access	General Description
IC	0.0	157	S	34-34-46	86-43-51	540	7/26	Wall-Triana Highway at Triana Landing	Located on right bank of IC at mouth of creek
IC	4.6	153	S	34-36-55	86-41-55	530	8/2	Via Centerline Rd.	Located on downstream side of Centerline Rd. bridge, 30 ft. from right abutment
IC	8.2	52.8	R	34-38-43	86-41-08	550	8/2	Via Martin Rd.	Attached to downstream side of Martin Rd. bridge 6 ft. right of rock pier
HSB	2.4	83.9	S	34-37-09	86-39-55	550	8/2	Via Dodd Rd.	Attached on the downstream side of the Dodd Rd. bridge in the stream center
HSB	5.0	--	S	34-37-23	86-38-31	550	9/11	Patton Rd. to Mill Rd. to Rd. #5669	Gage located on right bank; well attached to 12 ft. walkway extending into creek
HSB	5.9	72.9	R	34-37-33	86-37-46	520	8/3	Via Patton Rd.	Attached to downstream side of Patton Rd. bridge 30 ft. from left bank
HSB	5.9	--	P	34-37-33	86-37-46	-	8/3	Via Patton Rd.	Gage is 20 ft. downstream from Patton Rd. bridge and 50 ft. from right water's edge
HSB	9.7	46.9	R	34-39-32	86-36-16	500	8/3	Via Martin Rd.	Attached to downstream side of Martin Rd. bridge, 120 ft. from left abutment

*S = stage recorder; R = stage recorder at rated station; P = raingage

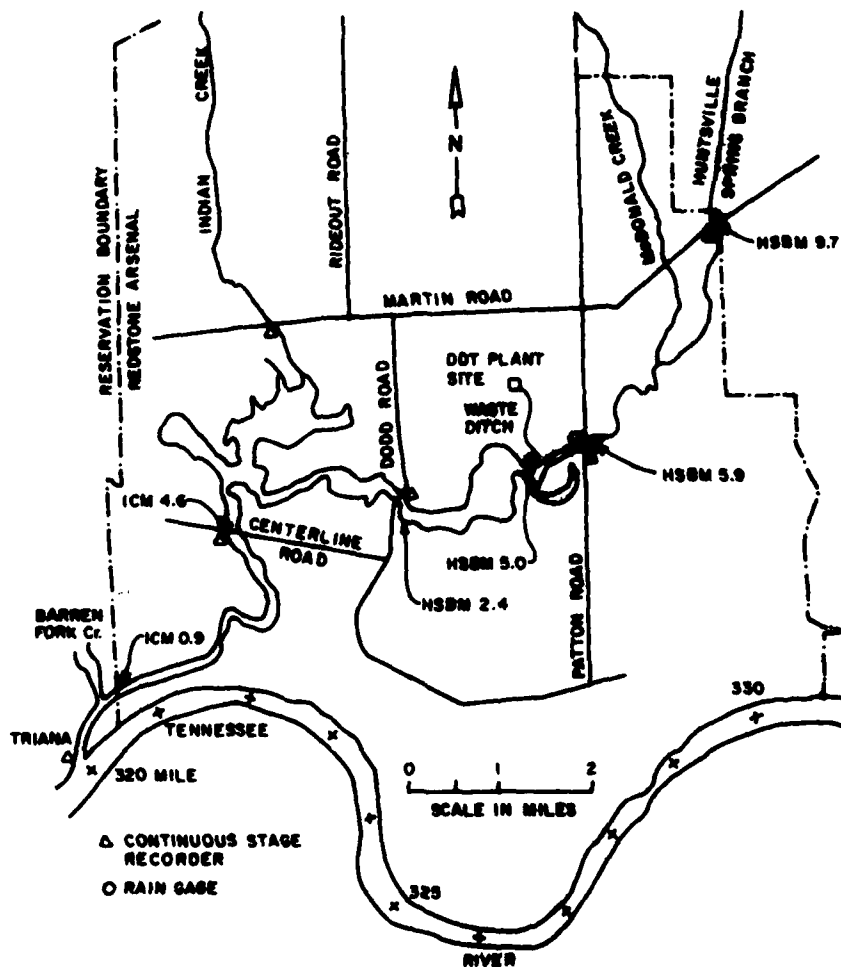


Figure 6-1: General Area Map with Gage Locations

WR28-1-560-103.6-1

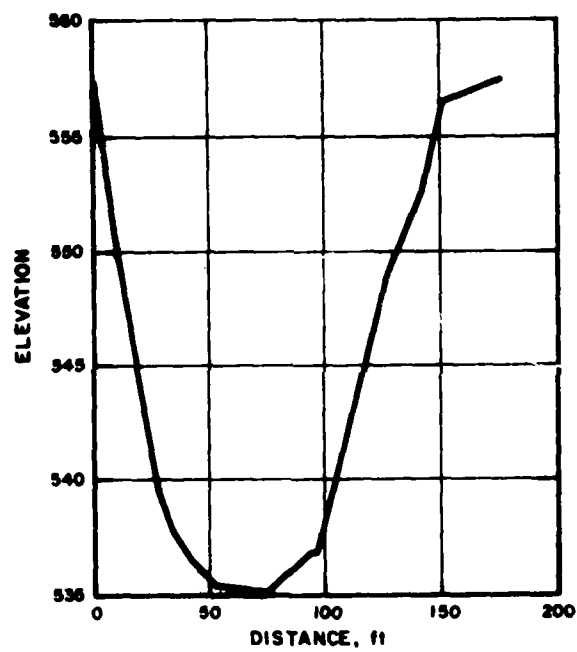


Figure 6-2 : Channel Cross-Section, ICM 0.0

WR28-1-550-103.6-2

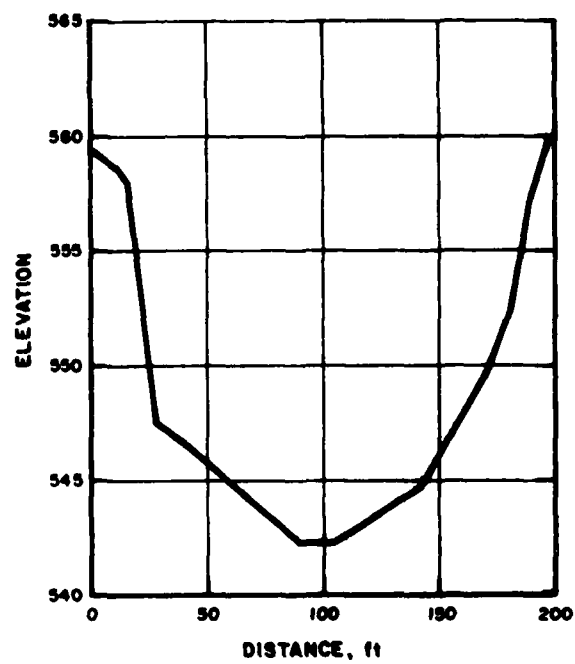


Figure 6-3 : Channel Cross-Section, ICM 1.0

WR28-1-550-103.6-3

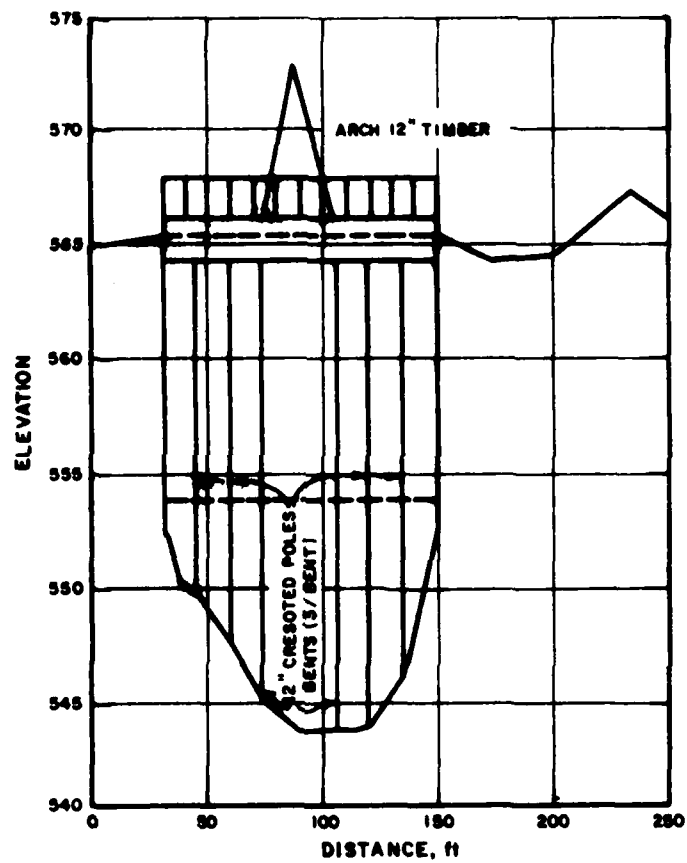


Figure 6-4 : Channel Cross-Section, ICM 4.6

WR29-1-950-103.6-4

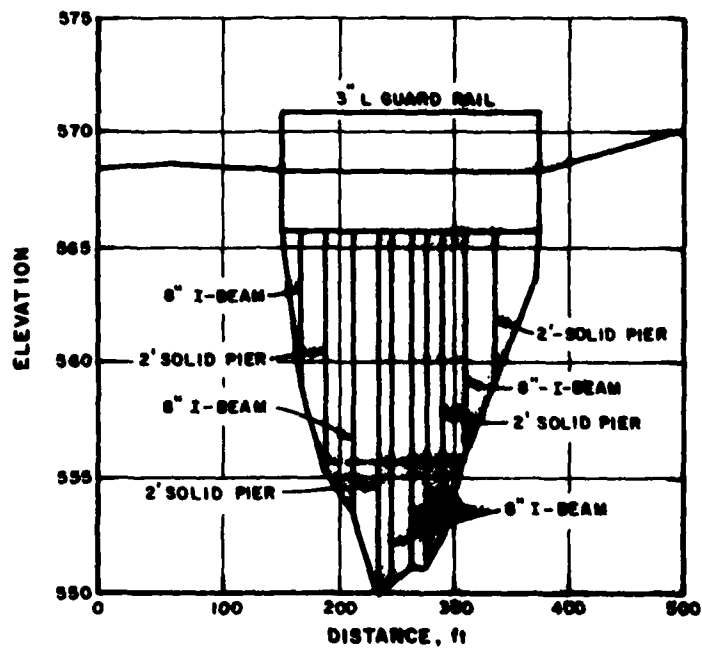


Figure 6-5 : Channel Cross-Section, HSDM 2.4

WR28-1-550-103.6-5

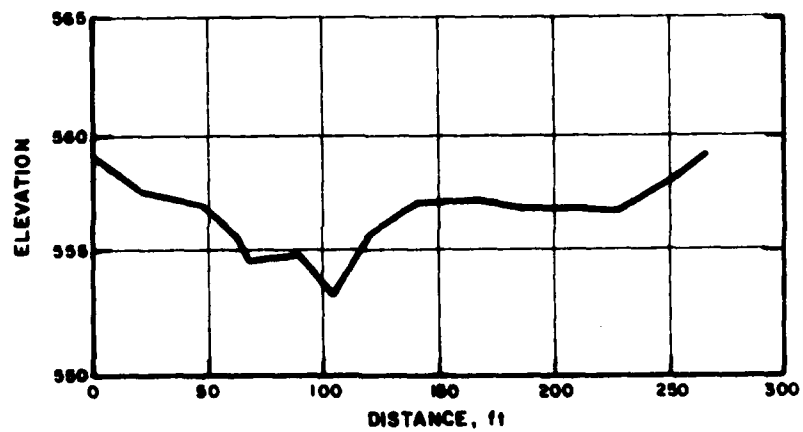


Figure 6-6 : Channel Cross-Section, HSBM 5.6

WR28-1-560-103 6-6

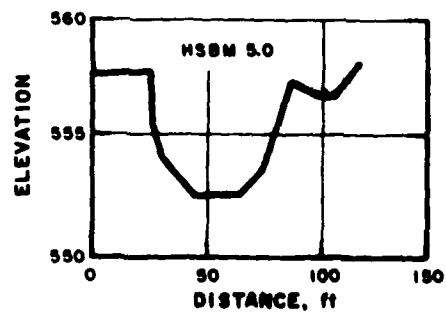
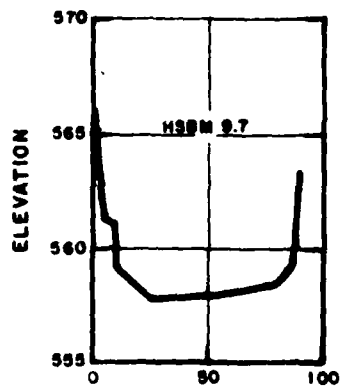


Figure 6-7 : Channel Cross-Section,
HSBM 5.0 and HSBM 9.7

WR28-1-550-103.6-7

3.0 Sample Collection

3.1 Sampling Schedule

Tables 6-2 through 6-5 are a summary of the water quality sampling and velocity measurement (from which discharge is calculated) schedules for storms 5-7 at each of the four stations. No discharge measurements were made during the fifth event at the ICM 0.9 station because one of the two Savonius rotor velocity meters was out of order. The functioning meter was used at the ICM 4.6 station. The workplan was altered for the seventh storm such that discharge measurements were taken less frequently, thus the gap in the discharge record for storm 7 (see 3.2).

The sampling times are indicated on the observed stage graphs for each of the four stations in Figures 6-8 through 6-11 for the fifth and sixth events. Sampling times for the seventh storm are indicated on the respective stage graphs in Figures 6-12 through 6-15. For purposes of documentation, the stage records for events 5 through 7 at HSBM 5.0 and IC at Martin Road are given in Figures 6-16 through 6-19. (Sampling information for events 1-4 was omitted because of the presence of suspect sediment and DDTR data.)

3.2 Discharge Measurements

Discharge measurements were taken using standard procedures as specified in the U.S. Department of the Interior, Geological Survey Water Supply Paper 888, Stream-Gaging Procedure, A Manual Describing Methods and Practices of the Geological Survey, Washington, D.C., 1943. Procedures for calculating depth, mean velocity and discharge are also given in this manual.

Table 6-2
Sampling Schedule
HSB at Patton Road
Storms 5-7

Date	Sampling Time	Sample ID	Time of Velocity Measurement	Flow	Stage
<u>Storm 5</u>					
1/18/80	0905-0955	4-A5	0830-1005	882	559.92
	2215-2240	4-B5	2120-2235	713	559.35
<u>Storm 6</u>					
1/22/80	1745-1850	4-A6	1730-1850	895	559.99
1/23	0145-0215	4-B6	0130-0220	1178	560.11
	0745-0815	4-C6	0735-0815	944	560.00
1/24	0815-0835	4-E6	0815-0915	614	559.64
	1055-1115	4-F6	1015-1050	612	559.64
1/25	0755-0815	4-G6	0740-0815	529	559.50
	1310-1330	4-I6	1310-1335	489	559.48
<u>Storm 7</u>					
3/17/80	1130-1250	4-A7	1045-1230	1725	560.42
	1330-1445	4-B7	1250-1420	2114	560.46
	1445-1540	4-C7		1788-A	560.48-A
	1715-1805	4-D7	1645-1810	2348	560.44
	2140-2150	4-E7	2055-2230	2468	560.46
3/18	1235-1315	4-F7	1000-1305	1051	560.32
	1720-1800	4-G7		1404-A	560.24-A
3/19	0920-1015	4-H7	0900-1030	1030	559.96
	1715-1745	4-I7		842-A	559.92-A
3/20	1140-1230	4-J7		B	560.53-A
	1705-1720	4-K7		B	561.18-A
3/21	0945-1015	4-L7	1015-1115	2073	563.58
3/22	1050-1100	4-M7	1015-1115	-84	565.15
3/24	1445-1500	4-N7	1400-1445	2442	565.32
3/26	1405-1420	4-O7	1315-1400	1672	562.74
3/28	1325-1340	4-P7	1245-1325	2101	561.10
3/31	1455-1515	4-Q7	1420-1500	685	560.24
4/3	1300-1330	4-R7	1235-1345	375	559.53

A-No discharge measurement made - stage read from gage record, flow based on stage rating

B-Stage beyond range of rating table, no estimate of flow available

Table 6-3
Sampling Schedule
HSBM 2.4
Storms 5-7

Date	Sampling Time	Sample ID	Time of Velocity Measurement	Flow	Stage
<u>Table 5</u>					
1/18/80	1120-1200	3-A5	1115-1155	483	554.56
	1600-1635	3-B5	1545-1625	687	555.00
	2100-2145	3-C5	2015-2135	787	555.30
	2325-0015	3-D5	2310-2355	777	555.37
1/19	0125-0205	3-E5	0115-0200	774	555.39
	1455-1535	3-F5	1445-1530	560	555.17

Storm 6

1/22/80	2050-2110	3-A6	2020-2110	611	555.61
	2345-0040	3-B6	2325-0040	735	555.90
1/23	0340-0445	3-C6	0330-0410	827	556.17
	0640-0730	3-D6	0630-0710	905	556.29
	1030-1130	3-E6	1010-1120	923	556.37
1/24	0955-1025	3-F6	0910-0940	595	556.35
	1345-1405	3-G6	1340-1405	530	556.35
1/25	0910-0930	3-H6	0840-0905	397	556.34
	1415-1435	3-I6	1350-1415	390	556.32

Storm 7

3/17/80	1300-1505	3-A7	1230-1500	1186	556.38
	1545-1610	3-B7		1300-B	556.78-A
	1730-1805	3-C7	1650-1805	1533	557.05
	2040-2100	3-D7	2040-2140	1724	557.61
	2340-2400	3-E7		1900-B	557.88-A
3/18	0120-0210	3-F7	0215-0340	1988	558.10
	0400-0435	3-G7		1980-B	558.15-A
	0600-0630	3-H7	0635-0735	1981	558.27
	0740-0810	3-I7		1900-B	558.29-A
	1000-1030	3-J7	1030-1115	1825	558.35
	1120-1145	3-K7		1800-B	558.35-A
	1255-1320	3-L7		1760-B	558.36-A
	1530-1550	3-M7	1510-1545	1708	558.36
3/19	1745-1805	3-N7		1650-B	558.35-A
	1000-1030	3-O7	0835-0950	1140	558.33
	1805-1830	3-P7		1100-R	558.31-A
3/20	1005-1045	3-Q7	0945-1050	1036	558.74
	1740-1755	3-R7			559.78-A
3/21	1030-1100	3-S7	1100-1145	3056	563.24

Table 6-3 (continued)

Date	Sampling Time	Sample ID	Time of Velocity Measurement	Flow	Stage
<u>Storm 7</u>					
3/22	0900-0920	3-T7	0830-0950	472	564.98
3/23	1205-1235	3-U7	1155-1315	1505	565.57
3/24	1410-1450	3-V7	1340-1500	2570	565.06
3/26	1325-1405	3-W7	1325-1425	2055	562.36
3/28	1345-1415	3-X7	1310-1420	1601	560.54
3/31	1505-1535	3-Y7	1400-1500	1099	559.88
4/3	1135-1155	3-Z7	1055-1200	495	557.62

A-Stage read from water quality sampling notes

B-Flow extrapolated between measured values

Table 6-4
Sampling Schedule
ICH 4.6
Storms 5-7

Date	Sampling Time	Sample ID	Time of Velocity Measurement	Flow	Stage
<u>Storm 5</u>					
1/18/80	1430-1520	2-A5	1400-1530	625	553.45
	2045-2145	2-B5	2020-2200	581	553.88
	2245-2340	2-C5	2235-2345	441	553.93
1/19	1320-1435	2-D5			554.03-A
	1555-1640	2-E5	1545-1630	697	554.34
<u>Storm 6</u>					
1/22/80	1910-2015	2-A6	1840-2035	773	554.95
	2350-0030	2-B6	2325-0030	1006	555.15
1/23	0400-0430	2-C6	0355-0440	1102	555.32
	0710-0730	2-D6	0645-0745	1203	555.42
	1050-1110	2-E6	1030-1120	1245	555.52
1/24	1110-1140	2-F6	1040-1155	728	556.00
	1445-1500	2-G6	1440-1500	673	556.06
1/25	1035-1055	2-H6	0945-1025	632	556.17
	1540-1600	2-I6	1505-1540	560	556.18
<u>Storm 7</u>					
3/17/80	1400-1505	2-A7	1325-1520	1416	555.11
	1730-1755	2-B7		1600-B	555.66-A
3/18	0155-0320	2-C7	0115-0305	2408	556.81
	0715-0735	2-D7		2500-B	557.24-A
	1110-1130	2-E7	1055-1135	2584	557.46
	1720-1740	2-F7		2000-B	557.68-A
3/19	0055-0120	2-G7	0045-0210	1398	557.90
	0645-0720	2-H7		1300-B	557.97-A
	1305-1335	2-I7	1245-1420	1212	558.03
	1835-1900	2-J7		1150-B	558.06-A
3/20	0140-0210	2-K7	0020-0130	1045	558.07
	0630-0700	2-L7			558.33-A
	1415-1435	2-M7	1345-1500	1935	558.88
	1840-1900	2-N7			559.53-A
3/21	0800-0830	2-O7	0830-920	3215	562.70
3/23	0955-1015	2-P7	1100-1125	342	565.58
3/24	1110-1145	2-Q7	1045-1205	1392	565.06
3/26	1100-1130	2-R7	1040-1155	2453	562.27
3/28	1030-1115	2-S7	1025-1135	2314	560.08
3/31	1230-1310	2-T7	1040-1225	1656	559.71
4/3	1000-1025	2-U7	0935-1045	871	557.50

A-Stage read from water quality sampling notes
B-Flow extrapolated from measured flows

Table 6-5
Sampling Schedule
ICM 0.9
Storms 5-7

Date	Sampling Time	Sample ID	Time of Velocity Measurement	Flow	Stage
<u>Storm 5</u>					
1/18/80	1500-1540	1-A5	No discharge measurements made during this event - see text		553.25-A
	2010-2100	1-B5			553.61-A
	2300-2335	1-C5			553.68-A
1/19	0140-0205	1-D5			553.73-A
	1600-1625	1-E5			554.20-A
<u>Storm 6</u>					
1/22/80	1850-1945	1-A6	1835-1955	409	554.76
	2220-2310	1-B6	2200-2315	468	554.86
1/23	0140-0230	1-C6	0130-0245	569	554.96
	0530-0640	1-D6	0540-0640	585	555.09
	1115-1200	1-E6	1105-1220	661	555.22
1/24	1210-1235	1-F6	1045-1245	198	555.88
	1620-1645	1-G6	1510-1700	211	555.97
1/25	1040-1120	1-H6	1030-1130	543	556.06
	1540-1610	1-I6	1530-1615	274	556.10
<u>Storm 7</u>					
3/17/80	1215-1315	1-A7	1200-1330	935	554.26
	1800-1815	1-B7		1275-B	554.94-A
3/18	0005-0040	1-C7	0001-0110	1609	555.67
	0725-0750	1-D7		1565-B	556.45-A
	1240-1320	1-E7	1230-1430	1532	556.96
	1800-1815	1-F7		1250-B	557.28-A
3/19	0015-0055	1-G7	0005-0110	908	557.56
	0640-0700	1-H7		930-B	557.72-A
	1300-1330	1-I7	1230-1345	962	557.80
	1800-1820	1-J7			557.83-A
3/20	0125-0145	1-K7			557.84-A
	0630-0640	1-L7			557.84-A
	1250-1315	1-M7	1230-1350	1640	558.52
	1710-1720	1-N7			558.81-A
3/22	1100-1155	1-O7	1040-1215	981	565.14-A
3/23	0950-1020	1-P7	0920-1035	3829	565.14-A
3/24	1120-1155	1-Q7	1050-1210	3285	564.52-A
3/26	1045-1120	1-R7	1010-1135	2734	561.32-A
3/28	1000-1035	1-S7	0945-1055	1817	559.60
3/31	1035-1115	1-T7	1010-1120	1402	559.52
4/3	1005-1045	1-U7	0945-1115	295	557.35

A-Stages read from water quality sample notes

B-Flows extrapolated between measured values

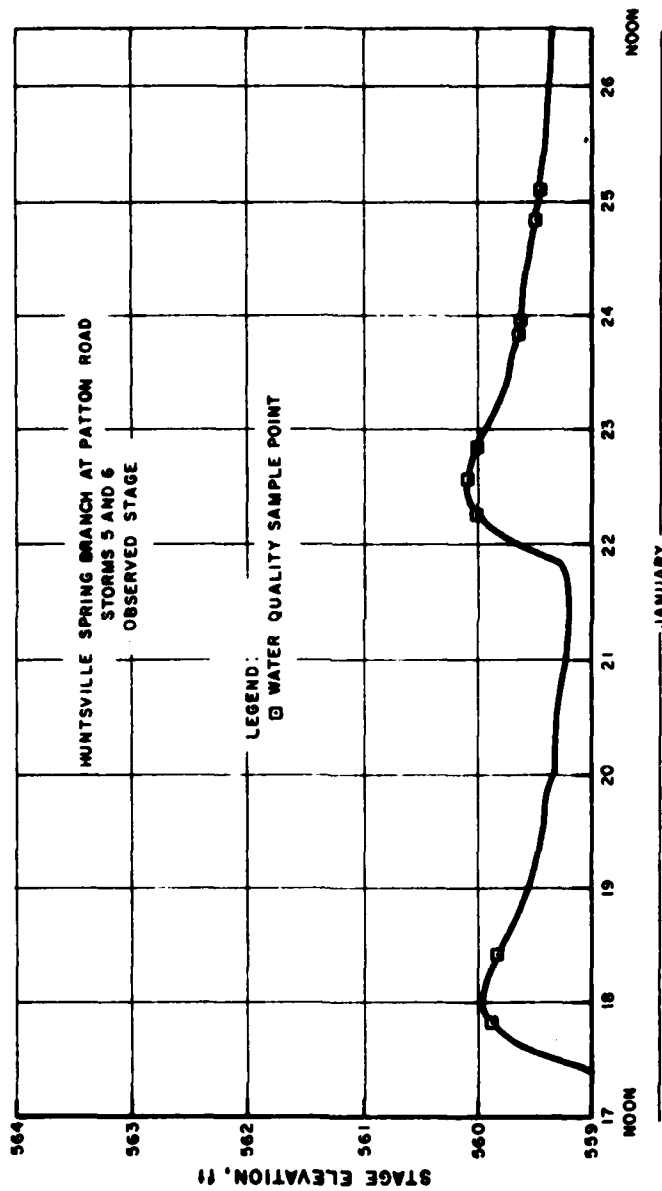


Figure 6-8 : Observed Stage Graph and Water Quality Sampling Times,
HSB at Patton Rd., Storms 5 and 6

WR28-1-550-103.6-8

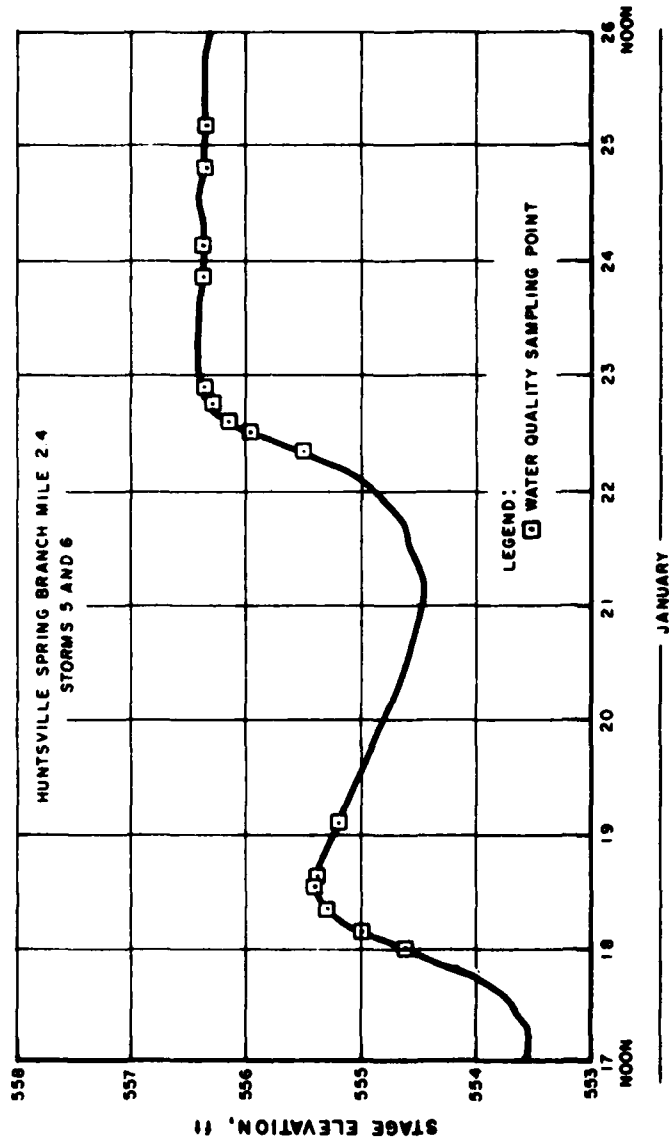


Figure 6-9: Observed Stage Graph and Water Quality Sampling Times,
HSBM 2.4, Storms 5 and 6

WR28-1-550-103.6-10

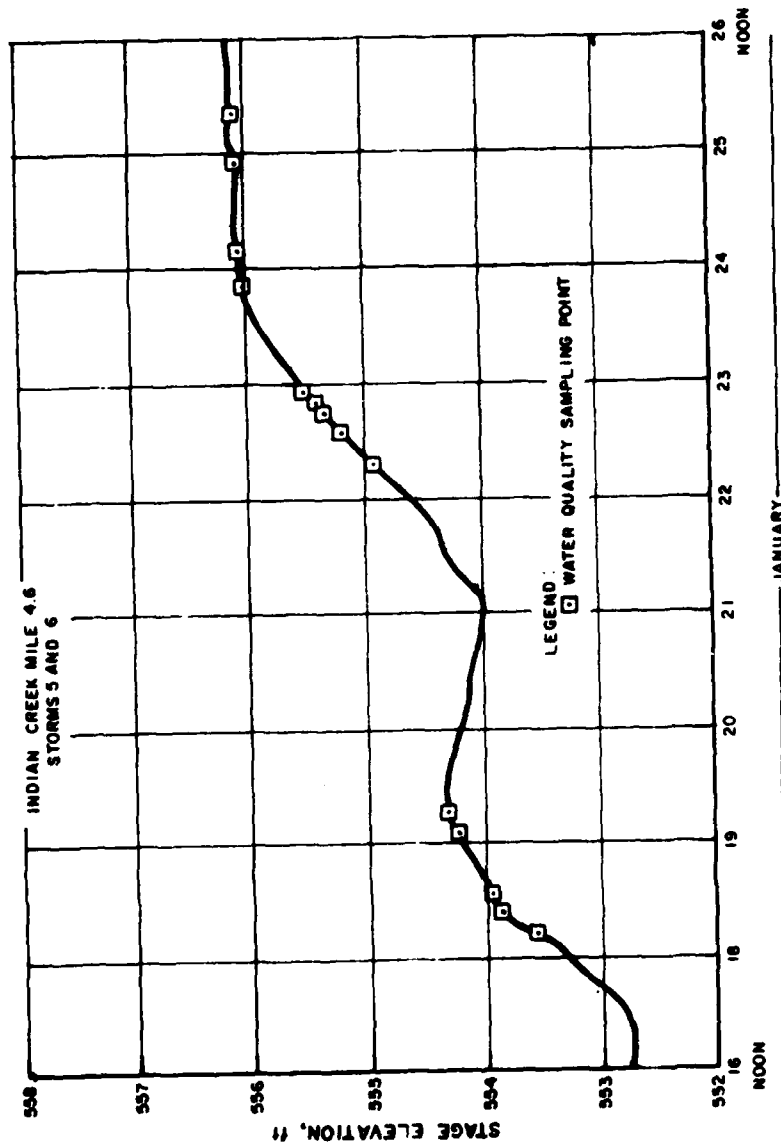


Figure 6-10: Observed Stage Graph and Water Quality Sampling Times,
ICM 4.6, Storms 5 and 6

WR28-1-950-103.6-11

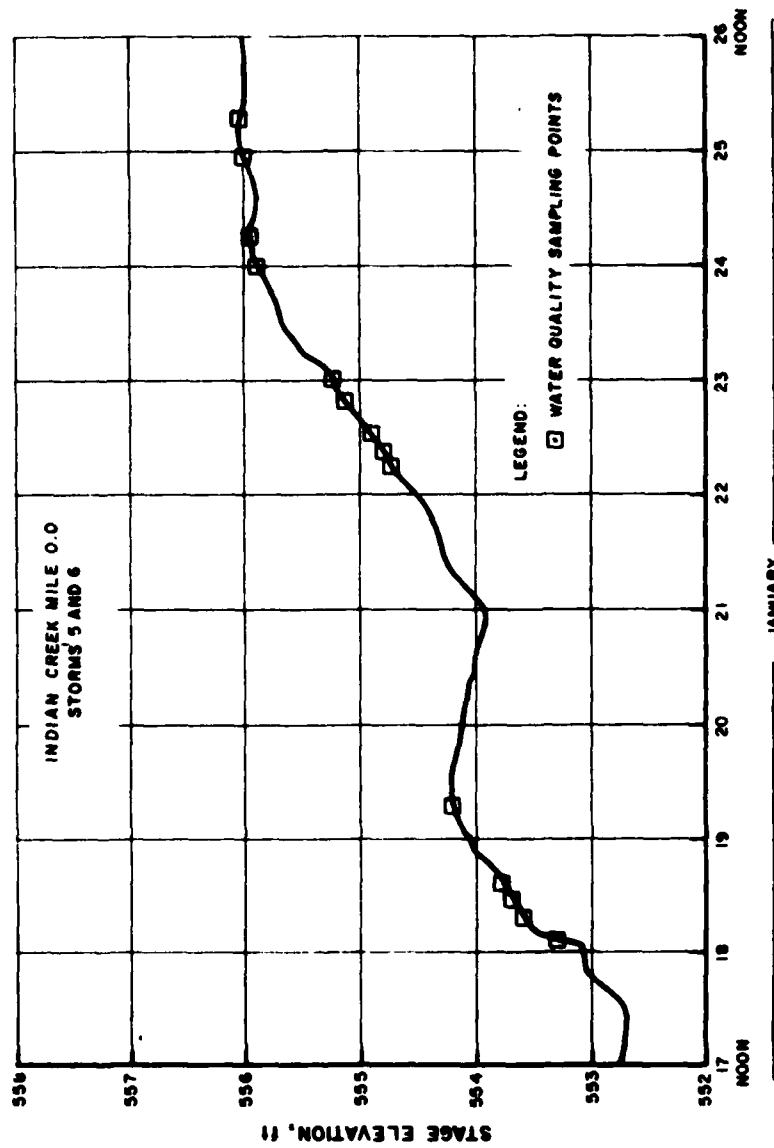


Figure 6-11: Observed Stage Graph and Water Quality Sampling Times,
ICM 0.0, Storms 5 and 6

HUNTSVILLE SPRING BRANCH AT PATTON RD.
STORM 7
OBSERVED STAGE

LEGEND :
□ WATER QUALITY SAMPLE POINT

Time	Stage Elevation (cfs)	Sample Point
16:00	558.5	No
17:00	558.5	No
17:30	559.5	Yes
18:00	559.8	No
18:30	560.0	Yes
19:00	560.2	No
19:30	560.5	Yes
20:00	560.8	No
20:30	560.5	Yes
21:00	560.2	No
21:30	560.0	Yes
22:00	560.5	No
22:30	561.5	Yes
23:00	565.5	No
23:30	565.0	Yes
24:00	564.5	No
25:00	563.5	Yes
26:00	562.5	No
27:00	561.5	Yes
28:00	561.0	No
28:30	561.5	Yes
29:00	561.0	No
30:00	560.5	Yes
31:00	560.0	No
32:00	559.5	Yes
33:00	559.0	No
34:00	558.5	Yes

Figure 6-12: Observed Stage Graph and Water Quality Sampling Times, HSB at Patton Rd. Storm 7

WR28-1-550-103.6-13

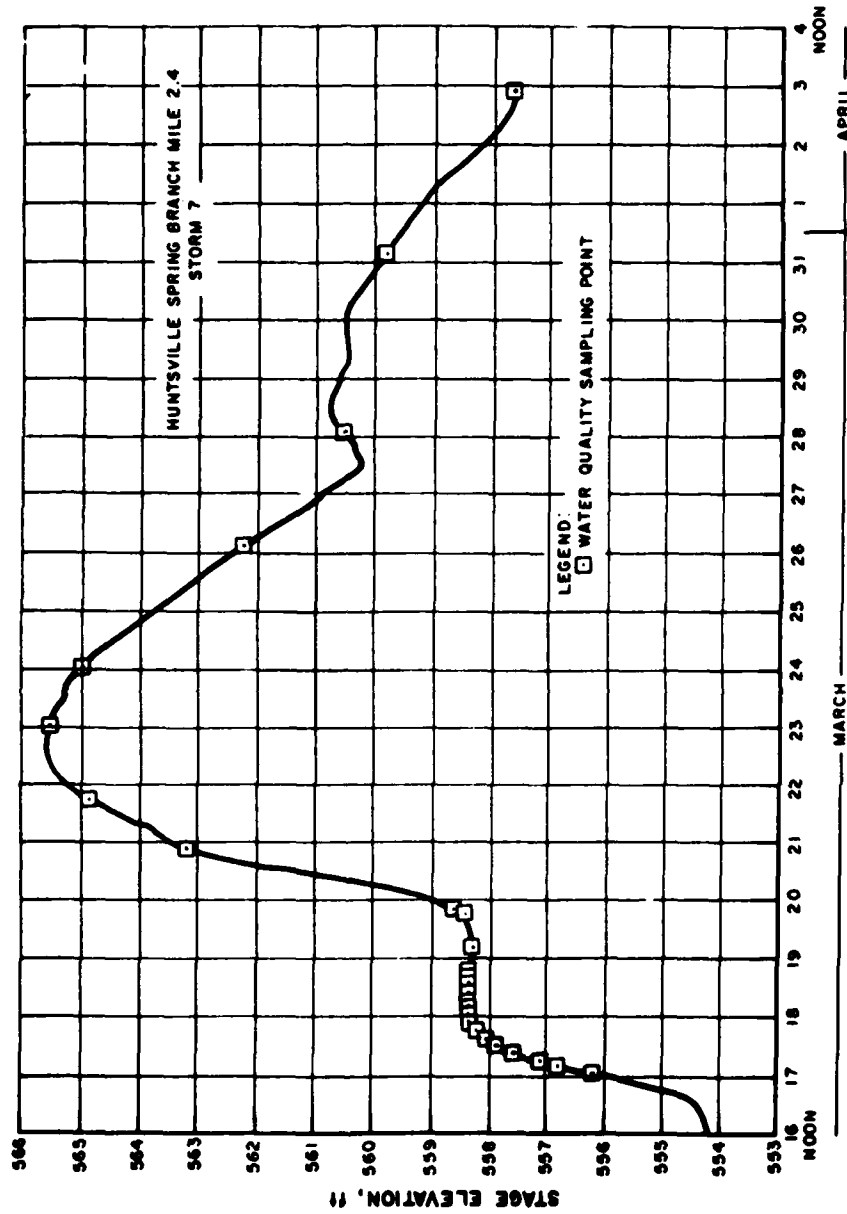


Figure 6-13: Observed Stage Graph and Water Quality Sampling Times, HSBM 2.4, Storm 7

WR28-1-350-103.6-14

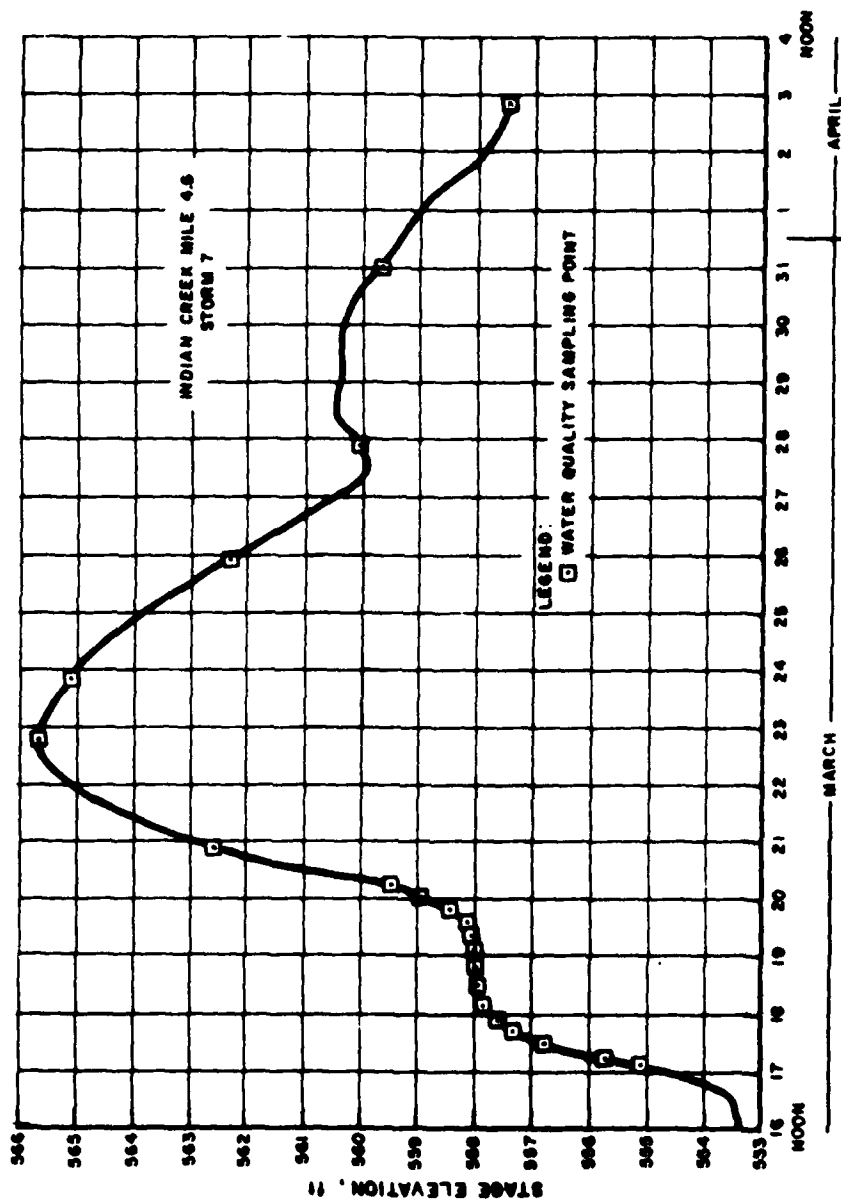


Figure 6-14: Observed Stage Graph and Water Quality Sampling Times,
ICM 4.6, Storm 7

WR28-1-550-103.6-15

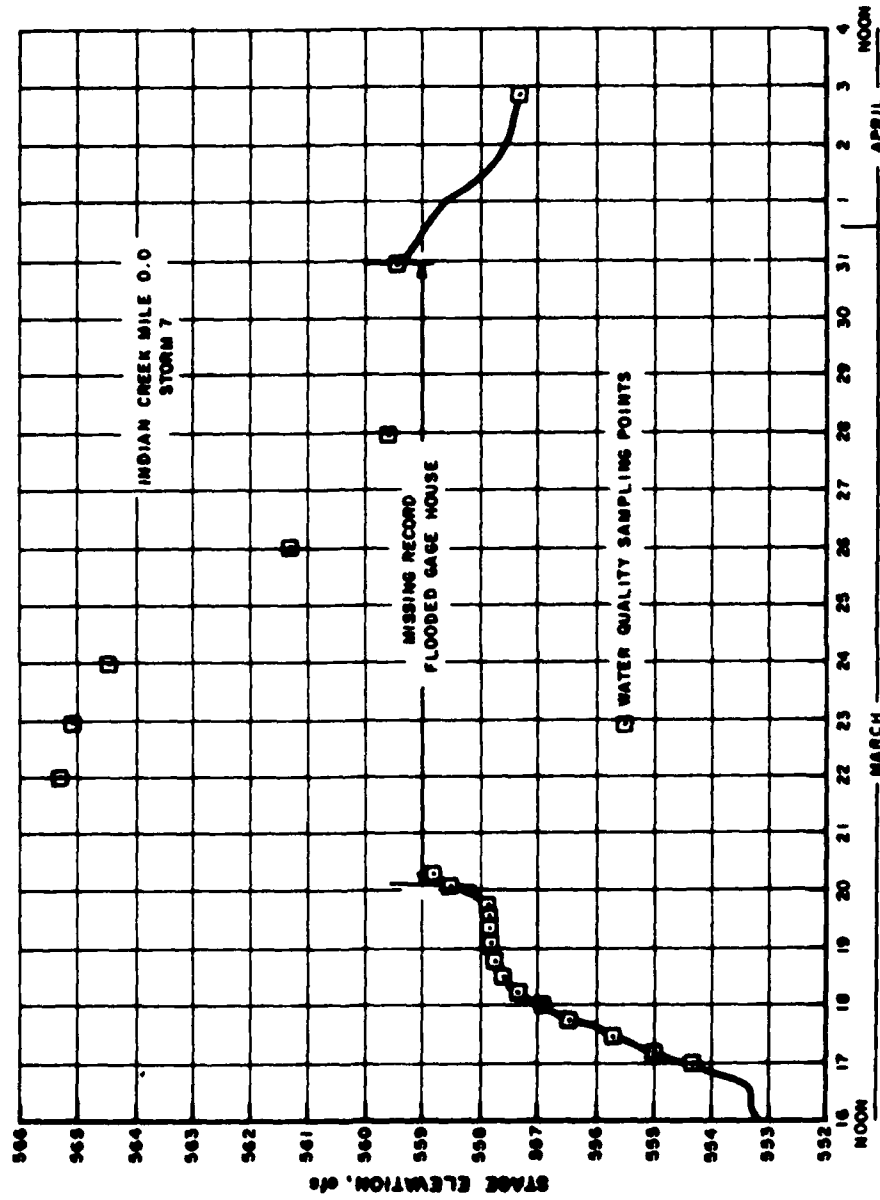


Figure 6-15: Observed Stage Graph and Water Quality Sampling Times, ICM 0.0, Storm 7

WR 28-1-550-103.6-16

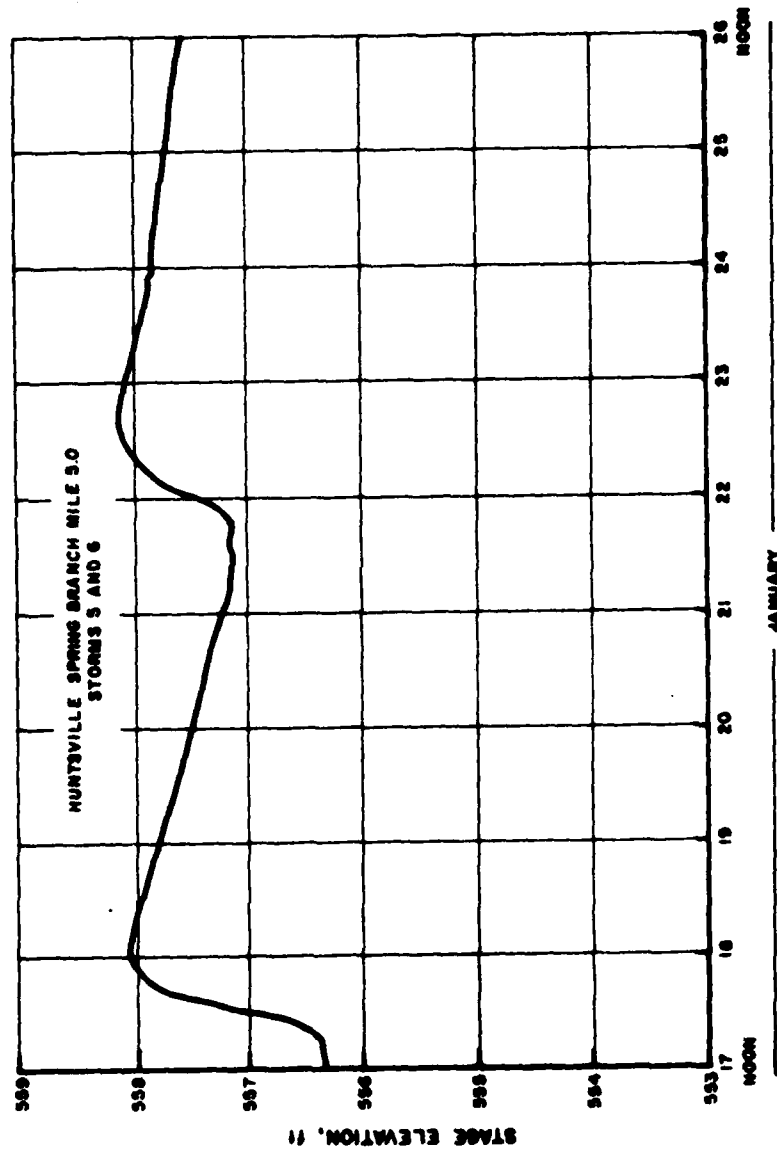


Figure 6-16: Observed Stage Record, HSBM 5.0, Storms 5 and 6

**HUNTSVILLE SPRING BRANCH MILE 5.0
STORM 7**

**MISSING RECORD
FLOODED GAGE HOUSE**

Time	Stage Elevation (ft)
March 16, Noon	397.0
March 17, Noon	398.0
March 18, Noon	399.5
March 19, Noon	399.0
March 20, Noon	399.5
March 21, Noon	399.5
March 22, Noon	399.5
March 23, Noon	399.5
March 24, Noon	399.5
March 25, Noon	399.5
March 26, Noon	399.5
March 27, Noon	399.5
March 28, Noon	399.5
March 29, Noon	399.5
March 30, Noon	399.5
March 31, Noon	399.5
April 1, Noon	399.5
April 2, Noon	399.5
April 3, Noon	399.5
April 4, Noon	399.5

-27-

WR28-1-55C-103.5-18

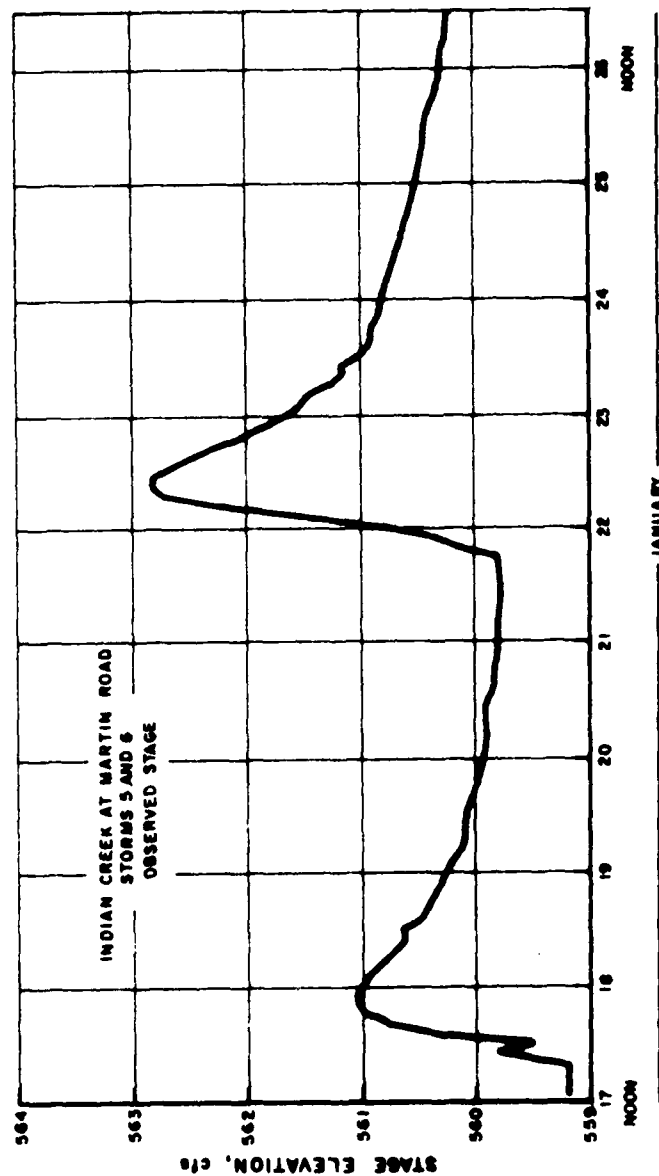


Figure 6-18: Observed Stage Record, IC at Martin Rd, Storms 5 and 6

WR28-1-550-103.6-19

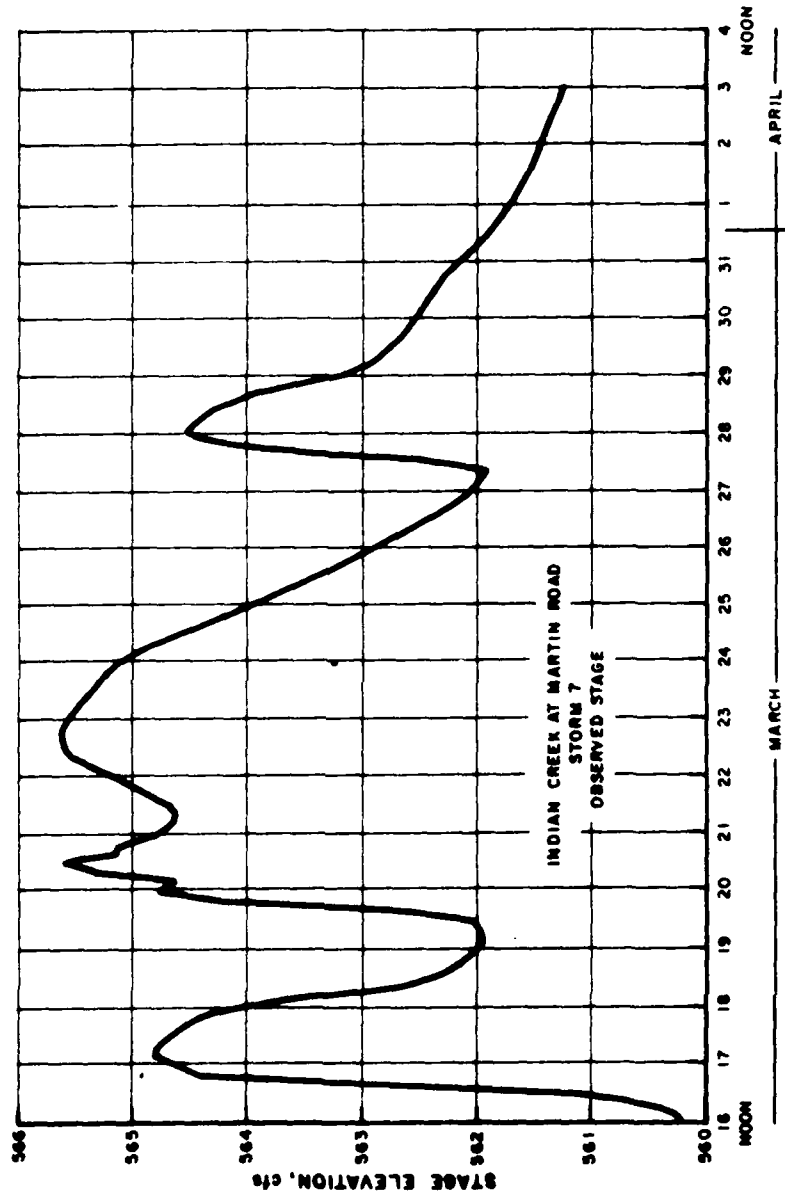


Figure 6-19: Observed Stage Record, IC at Martin Rd., Storm 7

For most measurements vertical velocity observations were taken at equal intervals across the cross section (measurements were taken at two-foot intervals). However, HSBM 5.9 at Patton Road bridge, the intervals between vertical velocity observations were varied to provide data necessary to define velocities more accurately in the sections of the channel where the flows were concentrated. Flows were not uniform across this cross section because of trash collected on the upstream side of the bridge.

A Savonius rotor current meter was used to measure flow velocity and direction at Indian Creek Mile 0.9, for storms 3-4 and 6-7. A Savonius rotor current meter was also used at Indian Creek Mile 4.6, for storms 5 and 7, and for two measurements during storm 6. Equipment malfunction necessitated the use of a Price current meter for the measurement of velocities in conjunction with the Savonius rotor current meter for most of the measurements taken at these stations, with the Savonius rotor current meter being used to give direction of flow and the Price meter used to give velocities. The Price current meter was used to make all measurements on HSB. A cosine correction to measured velocities were made where the Savonius meter indicated more than a 10-degree variation in the direction of flow from that normal to the measuring section.

No discharge measurements were taken at ICM 0.9 or ICM 4.6 during the first two storms and only three or four measurements were made at HSBM 2.4 and HSBM 5.9 during these two events in accordance with the original work plan. The recorder at HSBM 5.0 was installed before storm 3 and measurements were subsequently taken concurrently at HSBM 2.4 and HSBM 5.0. Measurements and samples were also taken concurrently

at ICM 0.9 and ICM 4.6 during storms 3-4 and 6. No measurements were made at HSBM 5.0 during storm 7 as per the revised workplan. No measurement were made at ICM 0.9 for storm 5 because the Savonius meter rotor could not be repaired in time for use nor were other current meters available for use at this station.

3.3 Water Quality Samples

3.3.1 The original work plan called for water samples to be collected just below the surface, 3-6 inches above the streambed, and at the third points in each vertical. Samples were to be collected at three verticals equally spaced across each cross-section. This procedure was followed through storm 4. Following storm 4, the workplan was revised after it was found that the original workplan resulted in an occasional unrepresentatively high suspended sediment concentration measured when the deep soft bottom sediments were disturbed during the depth sounding. (Consequently, sediment and DDTR data for storms 1-4 should be regarded as "suspect.") The revised workplan emphasized that the sampler should not touch the streambed. Also, a 6-inch extension and a 15-pound weight were added to each sampler to provide additional stability. During storms 5-7, four samples were collected in each vertical; just below the water surface and at 25, 50, and 75 percent of the depth. The depth for each vertical was determined when the discharge measurement was taken. Extreme care was exercised to measure the depth for each sample. During storms 6 and 7 an additional sample was collected at 60 percent of the depth in each vertical. Extra samples were collected at HSBM 2.4 during storm 1 as specified in the work plan.

All samples at ICM 0.9 and ICM 4.6 were collected near the quarter points in the cross section because of the uniform flow. Samples at HSBM 2.4 and HSBM 5.9 were collected at points with the greatest velocities as determined from the discharge measurements. The samples at HSBM 2.4 were collected at or near the same points in the cross section for all the storms. Because of trash collected on the upstream side of the bridge at HSBM 5.9, the points of flow concentrations varied from storm to storm and at varying times during each storm.

Samples collected at the lower station on Indian Creek for storms 1 and 2 were collected at ICM 1.7 because this was the location of the arsenal boundary cable. A cable was subsequently installed across the river at ICM 0.9 and flows were measured and samples collected at this location for storms 3-7.

All samples were collected with a TVA instantaneous horizontal trap sampler designed for suspended sediment sampling and having a capacity of about one pint. Two grabs for a total volume of about one quart were made at each sampling point in the cross-section.

Special samples were also collected during the first three storms from springs and streams in the vicinity of the old plant site.

All samples collected were transferred from the sampler to either pint or quart Mason jars sealed with an aluminum foil liner in a standard Mason jar lid. The samples were stored as soon as possible (generally within four hours) in a cooler on the arsenal where the temperature was kept at 40°F until the samples were transported to the laboratory in Chattanooga.

3.3.2 Four Helley-Smith bedload samplers were used during the first four storms in attempt to detect bedload sediment transport.

Helley-Smith bedload samplers were developed by the U.S. Geological Survey and are described in the USGS report, "A Field Calibration of the Sediment-Trapping Characteristics of the Helley-Smith Bedload Sampler," Open File Report 79-411.

During storms 1 and 2, two bedload samplers were placed at ICM 4.6 and one each at HSBM 2.4 and HSBM 5.9. During storms 3 and 4, a sampler was placed at each station except the downstream sampler was placed at ICM 1.7 because the cable used at ICM 0.9 would not support the sampler.

The sampler was placed at the point in each section where the greatest visual velocity occurred. The sampler was slowly lowered to the streambed and then raised 3-5 inches. Each sampler was raised periodically during the storm for a visual inspection of the amount of material trapped, but in each case the sampler was kept in place for the duration of the sampling period. After reviewing the results from these samples, bedload sampling was discontinued after the fourth storm.

The bedload samples were obtained by removing the nylon mesh bag from the sampler, wrapping the bag and its contents in aluminum foil, sealing the foil container, and transferring the samples to the cooler prior to shipment to Chattanooga.

4.0 Sample Handling and Laboratory Methodology

Quart samples were taken from each of the sample points in the cross section (as described in 3.3.1). The samples were stored at 4°C until shipment to the laboratory for processing. The samples remained at room temperature until after they were processed when they were again stored at 4°C until the time of analysis.

Upon receipt at the laboratory, the samples were first allowed to settle, then the total volume, visual estimation of the amount and appearance of suspended particulate, and the turbidity were determined on each sample. The sample was shaken vigorously immediately prior to turbidity measurement. The scheme for compositing samples and subsequent analyses were determined based on the results of the visual observations and turbidity measurements.

Each of the samples to be composited was poured through a no. 230 sieve into a 14-liter aluminum churn splitter and a one-liter and 250-ml aliquot removed for analysis. (See quality assurance document for special studies concerning the use of the churn splitter.)

The material retained on the sieve was transferred to a pre-weighed glass dish. The sample was air-dried and reweighed to determine the concentration (mg/l) of sand ($>63\mu$ material) in the composite sample. The sand was then transferred to a glass vial for DDTR analysis if there was at least 0.2 g of sand. If the sample retained on the sieve was less than 0.2 g, it was retained for volatile solids analyses only. If there was greater than 0.5 g of sand, the sample was split and both DDTR and volatile solids were analyzed. (See quality assurance document for analytical methodologies.)

One liter of the composited sample was filtered through a preweighed glass fiber filter. The filtrate was extracted for DDTR incorporating the addition of salt to increase the extraction efficiency. (See quality assurance document for details on the special study concerning the addition of salt.)

The glass fiber filters were air-dried, desiccated, and reweighed. The filters were analyzed for DDTR by the sediment procedure. (See quality assurance document for analytical methodology.)

On all the 250-ml samples, two nonfilterable residue determinations were made. First the sample was filtered through a preweighed glass fiber filter and nonfilterable residue determined. The filtrate was then filtered through a preweighed 0.45 μ m membrane filter and that nonfilterable residue also determined. The results were reported as nonfilterable residue retained on a glass fiber filter and nonfilterable residue passing through a glass fiber filter but retained on a 0.45 μ m membrane filter. Volatile suspended solids were also determined on the residue remaining on the glass fiber filter.

For samples collected during the seventh rain event, particle size analysis was performed on one sample set from each station collected near the peak of the hydrograph and on one during the recession of the hydrograph. The analysis was determined by the "pipette" procedure. (See quality assurance document for analytical methodology.)

The above sample handling and analysis procedure was used on rain events five through seven. Rains one through four were handled similarly but with the following exceptions: DDTR was determined on dissolved and total fractions. However, the percent volatile solids and concentration of solids that passed through a glass fiber filter but retained on a 0.45 μ m membrane filter were not determined.

5.0 Data Tabulations

5.1 Hourly Rainfall Data

Hourly rainfall data are given in Tables 6-6 through 6-14 for the period of August 3, 1979, to April 17, 1980. Data are missing for the periods of August 7-9, 1979, and January 24-31, 1980.

TABLE 6-6

TENNESSEE VALLEY AUTHORITY
HOURLY RAINFALL
DATA SERVICES BRANCH

STATION Huntsville Spring Branch at Patton Road													MONTH August 1979												
DATE	A. M.												P. M.												TOTAL DAILY
	1	2	3	4	5	6	7	8	9	10	11	Noon	1	2	3	4	5	6	7	8	9	10	11	12	
1																									
2																									
3																									
4																		.90	.03						.93
5																									
6																									
7																									
8																		No Record							-
9																									-
10																	.02	.01					.01	.01	.48
11																	.11	.01	.01						.28
12																									
13																									
14																									
15																									
16																									
17																									
18																									
19																									
20																									
21																									
22	.02	.01																							.26
23																		.01	.05	.01	.01	.01			.12
24	.12	.90	.05															.50	.10	.10				.18	.88
25																									1.09
26													.04	.04			.04	.32	.09	.01	.03	.12	.05	.23	.97
27																									.09
28																									
29																									
30																									.20
31																				.20					
TIME	C												MONTHLY TOTAL												-
	TOTAL												MONTHLY TOTAL												-

A - 24 Hour Total Ending at 7 a.m. B - 24 Hour Total Ending at 8 a.m.

TVA 4210 (NRS-5-79)

TABLE 6-7

STA. NO. 878

TENNESSEE VALLEY AUTHORITY
HOURLY RAINFALL
DATA SERVICES BRANCH

MONTH September 1979

STATION Huntsville Spring Branch at Patton Road

STATION	A. M.												P. M.												TOTAL DAILY		
	1	2	3	4	5	6	7	A	8	B	9	10	11	Noon	1	2	3	4	5	6	7	8	9	10		11	12
1																											
2																											
3																											
4																											
5																											
6																											
7																											
8																											
9																											
10																											
11																											
12																											
13																											
14																											
15																											
16																											
17																											
18																											
19																											
20																											
21	.01	.02		.03	.02	.01	.01				.01	.01			.02	.07	.01		.01	.02	.03	.03	.10	.01			.30
22	.04	.01	.01																								.12
23																											.06
24																											
25																											
26																											
27			.02	.07	.11	.08	.15	.17			.15	.35	.20	.15	.13	.11	.30	.03	.05	.13	.10	.41	.02	.02	.05		2.82
28	.16	.02	.02		.01																						.21
29																											
30																											
31																											
TOTAL																											8.33
TIME C																											MONTHLY TOTAL

A - 24 Hour Total Ending at 7 a. m. B - 24 Hour Total Ending at 8 a. m.

TABLE 6-8

TENNESSEE VALLEY AUTHORITY
HOURLY RAINFALL
DATA SERVICES BRANCH

STATION Huntsville Spring Branch at Patton Rd.															MONTH October 1979												TOTAL DAILY
DATE	A.M.											P.M.															
	1	2	3	4	5	6	7	A	8	B	9	10	11	Noon	1	2	3	4	5	6	7	8	9	10	11	12	
1																											
2																											
3																											
4				.10	.30	.10	.01		.02																		
5																											
6																											
7																											
8																							.20	.05	.13		
9																											
10	.02	.01	.01																								
11																											
12																											
13																											
14																											
15																											
16																											
17																											
18																											
19																											
20																											
21																							.15	.18	.01		
22																											
23																											
24																											
25																											
26																											
27																											
28	.05	.07	.08	.11	.18	.40	.37																				
29																											
30																											
31																											
TOTAL															MONTHLY TOTAL											3.56	

A - 24 Hour Total Ending at 7 a.m. B - 24 Hour Total Ending at 8 a.m.

TVA 4210 (NRS-5-79)

STA. NO. 278

TABLE 6-9

TENNESSEE VALLEY AUTHORITY
HOURLY RAINFALL
DATA SERVICES BRANCH

STATION		Huntsville Spring Branch at Patton Road												MONTH November 1979												TOTAL DAILY	
DATE	TIME	A. M.												P. M.													
		1	2	3	4	5	6	7	A	8	B	9	10	11	Noon	1	2	3	4	5	6	7	8	9	10	11	12
1																											
2																											
3																											
4																											
5																											
6																											
7																											
8																											
9																											
10	.03	.03	.04						.01					1.39	.37	.03	.10	.10	.10	.03	.03	.04	.10	.20	.10	.10	
11																											2.84
12																											.10
13																											
14																											
15																											
16																											
17																											
18																											
19																											
20																											
21																											
22																											
23							.03		.05		.25	.28	.22	.20	.15	.17	.18	.10	.12	.03	.04	.06	.04	.01	.01		1.93
24																							.23	.01	.01		.31
25																	.24	.05	.01								.30
26																											
27																											
28			.04	.01																							.05
29																											
30																											
31																											
TOTAL																										MONTHLY TOTAL	
																										7.00	

A - 24 Hour Total Ending at 7 a. m. B - 24 Hour Total Ending at 8 a. m.

TABLE 6-10

TENNESSEE VALLEY AUTHORITY
HOURLY RAINFALL
 DATA SERVICES BRANCH

STATION Huntaville Spring Branch at Patton Road															MONTH December 1979												TOTAL DAILY
DATE	A. M.														P. M.												
	1	2	3	4	5	6	7	A	8	B	9	10	11	Noon	1	2	3	4	5	6	7	8	9	10	11	12	
1																											
2																											
3																											
4																											
5																											
6				.11	.03																						.14
7																											
8																											
9																											
10																											
11																											
12																											
13						.40	.10		.09		.03	.03	.01														.66
14																											
15																											
16					.03	.02	.01																				.06
17																											
18																											
19																											
20																											
21																											
22																											
23				.01	.10	.03	.08										.01								.08		.31
24	.01	.01		.08	.38	.14	.10		.01		.01	.10															.84
25																											
26																											
27																											
28																											
29																					.01		.01	.04	.08		.14
30	.01	.10	.08	.03		.01														.01						.23	.05
31																				.01		.01	.01	.01	.01		2.43
TIME CST																											
TOTAL																											

A - 24 Hour Total Ending at 7 a. m. B - 24 Hour Total Ending at 8 a. m.

TV A 4210 (NRS 5-79)

STA. NO. 578

TABLE 6-11

TENNESSEE VALLEY AUTHORITY
HOURLY RAINFALL
DATA SERVICES BRANCH

STATION Huntsville Spring Branch at Patton Road													MONTH January 1980												TOTAL DAILY
DATE	A.M.												P.M.												
	1	2	3	4	5	6	7	8	9	10	11	Noon	1	2	3	4	5	6	7	8	9	10	11	12	
1																									
2																									
3	.06	.02			.01		.01																		
4																									
5																									
6																									
7									.05	.05	.06	.08	.06	.01	.07	.01									.39
8																									
9																									
10																									
11																									
12						.22	.05	.04	.01								.10	.05							.47
13																									
14																	.02								.02
15																									
16																									
17	.01				.01		.01					.02	.07	.02	.01		.01	.01	.01	.01	.01	.01	.01	.01	.16
18	.17	.21	.09	.16	.04	.02	.01	.02										.01	.02	.05	.26	.02	.01	.04	.44
19									.02																.74
20																									
21																									
22	.01	.02			.01	.12	.29	.13	.15	.22	.09	.14	.05	.10	.08	.04	.03	.02							.09
23																									1.51
24																									
25																									
26																									
27																									
28																									
29																									
30																									
31																									
TIME CST																									
TOTAL																									
MONTHLY TOTAL																									

A - 24 Hour Total Ending at 7 a.m. B - 24 Hour Total Ending at 8 a.m.

TVA 4210 (NRS-5-79)

TABLE 6-12

TENNESSEE VALLEY AUTHORITY
HOURLY RAINFALL
DATA SERVICES BRANCH

STA. NO. 878

STATION		MONTH February 1980												TOTAL DAILY	
Huntsville Spring Branch at Patton Road															
DATE	TIME	A. M.												P. M.	
		1	2	3	4	5	6	7	8	9	10	11	Noon	1	2
1															
2															
3															
4															
5															
6															
7															
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26															
27															
28															
29															
30															
31															
TOTAL		MONTHLY TOTAL												1.86	

A - 24 Hour Total Ending at 7 a. m. B - 24 Hour Total Ending at 8 a. m.

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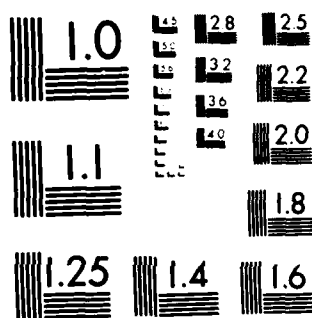
ENGINEERING AND ENVIRONMENTAL STUDY OF DDT
CONTAMINATION OF HUNTSVILLE SP... (U) WATER AND AIR
RESEARCH INC GAINESVILLE FL J H SULLIVAN ET AL. NOV 80
DACW01-79-C-0224

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MICROCOPY RESOLUTION TEST CHART
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TABLE 6-12

STA. NO. 878

TENNESSEE VALLEY AUTHORITY
HOURLY RAINFALL
DATA SERVICES BRANCH

STATION		MONTH February 1980												TOTAL DAILY	
Huntsville Spring Branch at Patton Road		P.M.												TOTAL DAILY	
DATE	TIME	A.M.												TOTAL DAILY	
		1	2	3	4	5	6	7	A	8	B	9	10	11	12
1															
2															
3															
4															
5															
6															
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27															
28															
29															
30															
31															
TOTAL		MONTHLY TOTAL												1.86	

A - 24 Hour Total Ending at 7 a.m. B - 24 Hour Total Ending at 8 a.m.

TABLE 6-13

TENNESSEE VALLEY AUTHORITY
HOURLY RAINFALL
DATA SERVICES BRANCH

STATION Huntsville Spring Branch at Patton Road																											MONTH March 1980											
DATE		A. M.												P. M.												TOTAL DAILY												
		1	2	3	4	5	6	7	A	8	B	9	10	11	Noon	1	2	3	4	5	6	7	8	9	10		11	12										
1																											.22											
2																																						
3																																						
4																																						
5																																						
6	.05				.03		.08																				.36											
7													.12	.70	.50	.40	.21	.20	.20				.01	.15	.19	.01	.16											
8																											2.33											
9																																						
10																																						
11																											.91											
12	.05	.01	.04	.22	.08	.01	.01	.20	.15	.05																												
13																																						
14																																						
15																																						
16																																						
17	.29	.20	.20	.50	.31	.07	.13	.55	.08								.11	.20	.10	.20	.06	.02	.08	.12	.12	1.01												
18																		.10								2.43												
19																										.71												
20	.10	.08	.20	.06	.04	.40	.70	.22	.38	.09	.50	.30						.40	.40	.80	.28					4.95												
21	.02																									.02												
22																																						
23																										.39												
24	.20	.11	.29	.05	.06																.03	.08	.15	.03	.10	.71												
25																																						
26																																						
27																																						
28	.50	.40	.17																		.02	.09	.11	.20	.30	1.02												
29																										1.07												
30																																						
31																																						
TOTAL		TOTAL												MONTHLY TOTAL												15.79												

A - 24 Hour Total Ending at 7 a. m. B - 24 Hour Total Ending at 8 a. m.

TABLE 6-14

TENNESSEE VALLEY AUTHORITY
HOURLY RAINFALL
DATA SERVICES BRANCH

STATION		MONTH												TOTAL																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
Huntsville Spring Branch at Patton Road		April 1980												DAILY																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
DATE	TIME	P.M.												TOTAL																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
		1	2	3	4	5	6	7	8	9	10	11	12																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
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A - 24 Hour Total Ending at 7 a. m. B - 24 Hour Total Ending at 8 a. m.

5.2 Discharge Measurements

Tables 6-15 through 6-21 are a summary of the discharge measurements taken at each of the stations for the duration of the study. Where the method of measurement is not indicated, the procedure was to measure velocities at .6 of the depth if the depth was less than three feet, and at .2 and .8 of the depth if the depth was greater than three feet.

5.3 Suspended Sediment and DDTR Data

A complete listing of all suspended sediment and DDTR analyses are included as an Appendix to this report. Data for storms 1-4 should, however, be considered as suspect (see 3.3.1). Tables 6-22 through 6-25 are a summary of the suspended sediment and DDTR data for storms 5-7. These tables itemize sample data along with the corresponding measured flows.

5.4 Bed Sediment Data

Bed sediment samples were collected at the four sampling stations during the first four storm events. Two sizes of bed load samplers were used. One sampler with a 4" x 4" opening was used at ICM 4.6 during storm 1, HSB at Patton Road during storm 2 and ICM 1.7 during storms 3 and 4. At all other times, a bed load sampler with a 3" x 3" opening was used. Table 6-26 summarizes the bed sediment data.

5.5 Special Samples

Special samples were collected in and around the old DDT plant site to determine if there continued to be any significant inputs from

Table 6-15

Discharge Measurement Summary

Huntsville Spring Branch at Martin Road

No.	Date	Time	Made By	Width		Area Sq Ft	Mean Velocity		Gage Height		Flow cfs	Method	No. Meas. Sec- tions	Gage Ht. Change		Time req'd Hrs
				Ft	Ft		fps	fps	Ft	Ft				Ft.	Ft.	
1979																
1	7-13	1310	WDH	65.0		106	.50		559.93		53	A	30	0		1.00
2	7-26	1200	WDH	82.0		360	.49		561.68		175	B	22	+.04		1.00
3	8-7	1205	WDH	62.0		111	.69		560.00		76	B	28	0		.67
4	8-27	1415	CEJ	76.0		230	.42		560.25		96	B	21	-.05		1.00
5	9-13	1555	CEJ-CH	82.0		437	1.35		562.91		590	B	20	+.18		.80
6	9-27	1410	WN-H	88		621	1.92		565.07		120	B	22	+.14		1.1

A - measured at .6 of the depth

B - measured at .2, .6, and .8

Table 6-16
Discharge Measurement Summary
Huntsville Spring Branch at Patton Road

No.	Date	Time	Made By	Width		Area Sq Ft	Mean Velocity fps	Gage		Flow cfs	Method	No. Meas- Sec- tions	Gage		Time req'd Hrs
				Ft	Ft			Height Ft	Ht. Change Ft.						
1973															
1	8-26	1120	DEN-H	117		529	.45	559.13		240	B	26	-.08		1.50
2	8-31	0910	DEM	118		512	.20	558.75		104	B	26	-.01		1.70
3	8-31	1200	DEM	118		515	.22	558.74		111	B	26	0		1.30
4	8-31	1500	DEM	118		490	.21	558.74		103	B	25	0		1.40
5	9-1	0900	DEM	118		503	.16	558.66		80	B	24	0		1.30
6	9-1	1200	DEM	116		491	.14	558.66		70	B	22	+.01		1.25
7	9-2	0715	JRL-B	118		692	1.86	560.28		1286	B	25	0		1.50
8	9-27	1700	CEJ,BJL	120		640	.86	559.72		548	B	25	+.10		1.50
9	9-28	0030	CEJ,BJL	120		683	1.30	560.35		289	B	17	+.02		1.00
10	9-28	0730	N,N,P	120		716	1.27	560.10		912	B	25	-.03		1.80
11	9-28	1430	G,N,N,P	120		651	1.12	560.02		738	B	25	-.03		1.50
12	9-28	2240	BJL-WDH	120		661	1.04	559.87		686	B	17	-.01		.83
13	9-29	1245	B.B.S.	120		618	.70	559.66		436	B	26	-.01		1.20
14	9-30	0840	BJL-G	120		607	.45	559.46		272	B	17	-.01		1.00
15	10-1	1415	OEM	120		597	.39	559.19		233	B	26	0		1.33
16	10-2	1335	TEG-WDH	120		595	.29	559.10		173	B	17	0		1.00
17	11-23	1820	JRL-TEG	120		648	1.06	559.85		689	B	25	+.06		1.22
18	11-24	0015	JRL-TEG	120		680	1.21	559.98		825	B	25	+.02		1.38
19	11-24	0700	B-P	120		663	1.21	559.98		801	B	25	-.01		1.27
20	11-24	1510	B-P	120		647	1.03	559.87		666	B	25	-.02		1.25
21	11-25	0045	L-J	120		628	.93	559.75		584	B	25	-.01		1.17
22	11-25	1230	B-P	120		632	.73	559.65		460	B	25	-.02		1.25
23	11-26	1435	L-B-P	120		641	.69	559.59		442	B	25	0		1.05
24	11-27	1400	L-B-E	120		598	.52	559.40		312	B	25	0		1.20
25	11-28	1025	G-E	120		596	.48	559.32		284	B	25	0		1.00

Table 6-16 (continued)
Discharge Measurement Summary
Huntsville Spring Branch at Patton Road

No.	Date	Time	Made By	Width Ft	Area Sq Ft	Mean Velocity fps	Gage Height Ft	Flow cfs	Method	No. Meas- Sec- tions	Gage Ht. Change Ft.	Time req'd Hrs
1980												
26	1-18	0830	EOM-TEG	120	661	1.33	559.92	883	B	26	+0.04	1.57
27	1-18	2120	L-N	120	672	1.06	559.85	713	B	25	-0.02	1.25
28	1-22	1730	N-P	120	693	1.29	559.99	895	B	25	0	1.33
29	1-23	0130	N-E	120	684	1.72	560.11	1178	B	13	0	.83
30	1-23	0735	M-L	120	666	1.42	560.00	944	B	13	0	.67
31	1-24	0815	N-E	120	605	1.01	559.64	614	B	13	-0.02	1.00
32	1-24	1015	C-G	120	624	.98	559.64	612	B	13	0	.58
33	1-25	0740	I-M	120	621	.83	559.60	530	B	13	-0.01	.58
34	1-25	1310	L-M	120	582	.84	559.48	489	B	13	0	.42
35	3-17	1045	H-B	120	725	2.38	560.42	1725		17	+0.04	1.50
36	3-17	1250	H	120	755	2.80	560.46	2114*		19	-0.07	1.25
37	3-17	1645	H	120	791	2.97	560.44	2349*		17	+0.04	1.25
38	3-17	2055	H-B	120	809	3.05	560.46	2468*		19	+0.02	1.42
39	3-18	1000	I-H	120	747	1.41	560.32	1051*	B	20	-0.06	1.83
40	3-19	0900	L-G	120	675	1.53	559.97	1030*	B	25	-0.01	.7
41	3-21	1015	N-E	120	1316	1.57	563.58	2073*		13	+0.09	1.0
42	3-22	1015	L-B	120	1356	.062	565.15	-84*	C	13	+0.05	.97
43	3-24	1400	G-C	120	1390	1.76	565.32	2442*	C	13	-0.03	.72
44	3-26	1315	C-B	120	1044	1.60	562.74	1672*	C	13	-0.05	.75
45	3-28	1245	G-C	120	896	2.35	561.10	2101*	C	13	+0.02	.67
46	3-31	1420	G-C	120	756	.91	560.24	686*			-0.01	.63
47	4-3	1235	J-H	120	704	.53	559.53	375	C	20	0	.92

A - measured at .6 of the depth

B - measured at .2, .6, and .8

C - measured at .2 and .8 of the depth

*Flows affected by backwater

Table 6-17

Discharge Measurement Summary

HSBM 5.0

No.	Date	Time	Made By	Width		Area Sq Ft	Mean Velocity		Gage Height		Flow cfs	Method	No. Meas. Sec- tions	Gage Ht. Change Ft.	Time req'd Hrs
				Ft	Ft		fps	Ft							
1979															
1	9-27	1900	I-H	60		263.6	1.12		557.63	297	B	16	+12	.8	
2	9-28	0605	L-N-H	76		297.9	1.46		558.08	436	B	17	+02	.8	
3	9-29	0110	I-H	70		261.5	1.28		558.08	335	B	15	-01	.6	
4	9-30	1010	G	85		336	.23		558.85	77	B	15	0	1.0	
5	10-1	1355	CEJ, LDH	75		282	.40		558.14	113	B	15	-01	.6	
6	10-2	0935	L-S	70		255	.54		557.59	137	B	16	-02	.7	
7	10-3	1015	L-N	64		231	.63		557.28	145	B	14	-01	.8	
8	10-4	1555	L-N	65		237.3	.90		557.34	213	B	14	+01	.4	
9	10-5	1035	N-H	60		213.2	.68		557.04	165	B	13	-01	.6	
10	11-23	2200	L-G	72		271.4	1.31		557.90	356		16	+05	.8	
11	11-24	1140	M-N	72		289.4	1.50		558.00	433		16	0	.7	
12	11-24	1710	M-L	65		297.5	1.37		557.94	409		14	0	.6	
13	11-25	0810	M-N	67		261.8	1.26		557.80	330		15	0	.5	
14	11-25	2135	L-I	67		271.9	1.10		557.75	298		15	0	.6	
15	11-26	1630	N-E	65		251.5	1.20		557.69	301	B	14	0	.9	
16	11-27	1527	L-G	65		227.5	.93		557.52	212		14	-02	.7	
17	11-28	1315	L-G	60		40.0	.80		557.47	192		14	0	.6	
18	11-29	1000	J-G	62		239.4	.812		557.41	194	B	15	0	1.0	

Table 6-17 (continued)

Discharge Measurement Summary

HSBM 5.0

No.	Date	Time	Made By	Width Ft	Area Sq Ft	Mean Velocity fps	Gage Height Ft	Flow cfs	Method	No. Meas. Sec- tions	Gage Ht. Change Ft.	Time req'd Hrs
1980												
19	1-18	1105	DEM-C	70	295	1.50	557.99	444	B	15	+02	1.17
20	1-18	1600	L-B	73	288	1.54	558.02	445	B	16	0	.72
21	1-18	1950	L-N	73	275	1.54	557.99	424	B	16	0	.67
22	1-18	2300	L-N	72	255	1.52	558.00	387	B	16	-.01	.78
23	1-19	0210	L-N	72	272	1.36	557.90	369	B	16	0	.83
24	1-19	1440	M-I	67	253	1.24	557.74	314	B	15	0	.55
25	1-22	2045	N-E	73	279	1.63	558.04	454	B	16	0	.75
26	1-22	2330	N-E	73	286	1.70	558.10	485	B	16	+02	.67
27	1-23	0330	N-E	73	288	1.74	558.10	500	B	16	0	.75
28	1-23	0745	N-E	73	287	1.69	558.08	485	B	16	0	.75
29	1-23	1000	N-E	73	276	1.63	558.06	450	B	16	-.01	.75
30	1-24	0915	N-E	71	258	1.34	557.80	347	B	16	0	.67
31	1-24	1355	N-E	71	263	1.32	557.80	348	B	16	0	.67
32	1-25	0835	I-M	68	264	1.26	557.66	334	B	15	0	.55
33	1-25	1400	L-M	67	260	1.20	557.63	314	B	15	0	.50

B - measured at .2, .6, and .8 of the depth

Table 6-18
Discharge Measurement Summary
HSBM 2.4

No.	Date	Time	Made By	Width Ft	Area Sq Ft	Mean Velocity fps	Gage Height Ft	Flow cfs	Method	No. Meas. Stations	Gage Ht. Change Ft.	Time req'd Hrs
1979												
1	8-26	1425	WDH	84	286	0.95	555.46	274	B	22	0	.80
2	8-31	0920	WDH	84	293	0.05	555.56	15	B	22	+0.05	1.25
3	8-31	1230	WDH	84	304	0.35	555.59	106	B	22	-0.02	1.40
4	8-31	1455	CEJ	84	290	0.48	555.55	140	B	22	-0.01	1.25
5	9-1	0900	CEJ	81	229	0.61	554.90	140	B	21	+0.04	0.90
6	9-1	1155	CEJ	81	239	0.29	555.07	69	B	21	-0.02	1.00
7	9-1	1615	CEJ	81	234	0.57	554.96	132	B	22	-0.06	1.00
8	9-2	0315	CEJ	83	284	1.97	555.54	560	B	21	+0.04	1.20
9	9-2	1115	TEG-LPH	83	288	2.53	556.05	729	B	23	+0.10	1.10
10	9-2	2215	RWB-JHS	83	351	2.59	556.35	910	B	23	-0.02	1.70
11	9-3	1040	JRL-CEJ	103	357	2.32	555.99	829	B	23	-0.02	1.00
12	9-27	1850	CEJ-G	83	260	0.86	555.62	223	B	22	+0.02	.83
13	9-28	0605	R.S.E.	96	365	1.61	556.22	59	B	25	+0.12	1.20
14	9-29	0115	CEJ-G	106	430	1.56	556.85	669	B	22	+0.01	1.0
15	9-30	1015	CEJ	163	685	0.35	558.74	317	B	24	-0.01	1.1
16	10-1	1355	WDH	133	587	0.53	557.97	311	B	17	-0.03	.83
17	10-2	0930	WDH-TEG	125	505	0.51	557.28	259	B	21	-0.01	1.00
18	10-3	1010	TEG	115	441	0.51	556.84	227		24	-0.01	1.00
19	10-4	1620	G-H	107	374	0.56	556.23	208		23	0	.92
20	10-5	1335	W.D.H.	105	370	0.62	556.03	229		19	-0.01	1.00
21	11-23	1000	S-J	83	197	1.80	554.44	353		18	+0.05	.67
22	11-24	1135	P-B	102	308	2.07	555.40	638		22	+0.02	.95
23	11-24	1705	CEJ	83	288	2.43	555.46	700		18	+0.01	.83
24	11-25	0800	B-P	100	298	1.80	555.53	536		21	0	1.17
25	11-25	2135	CEJ	83	289	1.54	555.61	444		18	-0.04	1.17
26	11-26	1600	B-P	102	364	1.04	556.02	381		22	+0.03	.78
27	11-27	1645	B-P-G-L	100	403	0.591	556.62	238		21	0	.75
28	11-28	1315	S-E	85	378	0.725	556.67	274		18	-0.01	.83
29	11-29	1030	N-P	85	390	0.665	556.68	259		18	-0.01	.75

Table 6-18 (continued)

Discharge Measurement Summary

HSBM 2.4

No.	Date	Time	Made By	Width Ft	Area Sq Ft	Mean Velocity fps	Gage Height Ft	Flow cfs	Method	No. Meas. Sec- tions	Gage Ht. Change Ft.	Time req'd Hrs
1980												
30	1-18	1115	CEJ-G	80	208	2.32	554.56	493		17	+0.08	.67
31	1-18	1545	CEJ-G	82	247	2.78	554.00	687		18	+0.02	.65
32	1-18	2015	CEJ-WSP	82	276	2.85	555.30	787		18	+0.05	1.3
33	1-18	2310	CEJ-WSP	82	279	2.78	555.37	777		18	-0.01	.75
34	1-19	0115	CEJ-WSP	82	280	2.77	555.39	774	B	18	0	.75
35	1-19	1445	CEJ-SLC	82	257	2.18	555.17	560	B	18	-0.01	.75
36	1-22	2020	CEJ-WSP	82	292	2.09	555.61	611	B	18	+0.08	.83
37	1-22	2325		82	314	2.34	555.90	735	B	18	+0.09	1.25
38	1-23	0330	CEJ-WSP	82	339	2.44	556.17	827	B	18	+0.04	.75
39	1-23	0630	CEJ-WSP	95	380	2.38	556.29	905	B	21	+0.03	.67
40	1-23	1010	CEJ-WSP	91	380	2.43	556.37	923	B	20	+0.01	1.17
41	1-24	0910	S-P	104	379	1.57	556.35	595	B	12	0	.50
42	1-24	1340	S-P	104	375	1.41	556.35	530	B	12	0	.40
43	1-25	0840	C-G	104	368	1.08	556.34	397	B	12	0	.42
44	1-25	1350	C-G	104	370	1.05	556.32	390	B	12	0	.40
45	3-17	1230	CEJ-JKB	100	400	2.96	556.38	1186		20	+0.50	2.50

(continued)

Table 6-18 (continued)

Discharge Measurement Summary

HSBM 2.4

No.	Date	Time	Made By	Width Ft	Area Sq Ft	Mean Velocity fps	Gage Height Ft	Flow cfs	Method	No. Meas- Sec- tions	Gage Ht. Change Ft.	Time req'd hrs
1980 (continued)												
46	3-17	1650	CEJ-JKB	109	477	3.22	557.05	1533		22	+0.21	1.23
47	3-17	2040	CEJ-JKB	128	558	3.00	557.61	1724		23	+0.12	1.00
48	3-18	0215	S-P	120	644	3.09	558.10	1986		17	+0.06	1.42
49	3-18	0635	S-P	140	693	2.86	558.27	1991		19	+0.03	1.00
50	3-18	1030	S-P	140	665	2.74	558.35	1825		20	0	.75
51	3-18	1510	J-I	145	664	2.57	558.36	1709		17	0	.53
52	3-19	0835	A-H	140	664	1.72	558.33	1140		26	0	1.22
53	3-20	0945	L.G.A.H	160	697	1.48	559.74	1036	C	30	+0.12	1.12
54	3-21	1100	S-P	180	1576	1.94	563.24	3056		19	+0.05	.75
55	3-22	0830	L-B	194	1762	.27	564.09	-472		21	+0.08	1.33
56	3-23	1155	H-I	210	1945	.80	565.57	1565	B	18	-0.12	1.00
57	3-24	1340	H-J	180	1732	1.48	565.06	2570	B	15	-0.03	1.08
58	3-26	1325	H-B	175	1156	1.78	562.36	2955	B	15	-0.05	.83
59	3-28	1310	H-L	160	945	1.70	560.54	1601	B	17	+0.05	1.00
60	3-31	1400	H	145	806	1.36	559.08	1499	B	13	-0.02	.75
61	4-3	1055	J-H	126	529	.94	557.62	495	B	16	.01	.75

A - measured at .6 of the depth

B - measured at .2, .6, and .8 of the depth

C - measured at .2 and .8 of the depth

Table 6-19
Discharge Measurement Summary
ICM 4.6

No.	Date	Time	Made By	Width		Area Sq Ft	Mean Velocity fps	Gage		Flow cfs	Method	No. Meas- Sec- tions	Gage Ht. Change Ft.	Time req'd Hrs
				Ft	Ft			Height Ft	Ft					
1979														
1	8-27	1445	WDH	120		1018	.38	555.11		392	B	23	0	1.70
2	9-2	1345	B-S	120		1026	.88	555.30		899	B	25	+08	1.70
3	9-28	1310	BSBE	119		1107	.57	556.30		632		26	+02	1.33
4	9-29	0940	BSB	119		1240	.36	557.40		-445		26	+13	2.50
5	9-30	1200	CEJ	120		1394	.49	558.67		687		25	-04	1.25
6	10-1	1000	WDH	120		1354	.41	558.00		551		17	-03	1.40
7	10-2	1040	WDH-TEG	120		1308	.28	557.20		362		17	0	1.00
8	10-3		TEG-LPH	115		1158	.42	556.72		488		17	-06	--
9	10-4	1105	TEG-LPH	120		1142	.19	556.21		217		17	-02	1.50
10	10-5	1115	WDH-WSP	120		1124	.31	556.00		349		17	-02	1.25
11	11-24	1000	B-P	119		874	.98	554.18		861		25	+04	1.00
12	11-26	1130	B-P	120		1093	.54	555.68		593		25	+02	1.40
13	11-27	0850	LEWIS	120		1148	.17	556.49		197		25	+06	2.58
14	11-28	0810	LEWIS	120		1192	.39	556.65		465		13	-01	.44
15	11-28	1500	S-E	120		74	.32	556.61		80		13	0	.75
16	11-29	0830	N-P	120		1238	.30	556.64		369		13	0	1.00
17	11-29	1345	N-P	120		1218	.48	556.56		587		13	-02	.75
18	11-30	1310	J-L	120		1112	.38	556.22		424	B	13	-01	.65

Table 6-19 (continued)
Discharge Measurement Summary
ICM 4.6

No.	Date	Time	Made By	Width Ft	Area Sq Ft	Mean Velocity fps	Gage Height Ft	Flow cfs	Method	No. Meas. Sec- tions	Gage Ht. Change Ft.	Time req'd hrs
19	1-13	1400	CEJ-G	120	795	.79	553.45	625	B	25	+10	1.45
20	1-19	2020	B-S	120	857	.68	553.88	581	B	24	+07	1.65
21	1-18	2235	B-G	120	862	.51	553.93	441	B	24	+02	1.13
22	1-19		B-S	Void								
23	1-19	1545	CEJ-SLC	120	406	.77	554.34	697	B	13	+01	.75
24	1-22	1840	B-S	110	910	.85	554.95	773	B	23	+10	1.95
25	1-22	2325	B-S	120	994	1.01	555.15	1006	B	13	+04	1.12
26	1-23	0355	B-S	120	996	1.11	555.32	1102	B	13	+05	.75
27	1-23	0645	B-S	120	1056	1.14	555.42	1203	B	13	+03	1.00
28	1-23	1030	B-S	120	1056	1.18	555.52	1245	B	13	+03	.83
29	1-24	1040	S-P	120	1130	.64	556.00	728	B	13	+01	1.23
30	1-24	1440	S-P	120	1146	.59	556.06	673	B	13	+01	.48
31	1-25	0945	C-G	120	1107	.57	556.17	632	B	13	0	.67
32	1-25	1505	C-G	120	1108	.51	556.18	560	B	13	+01	.58
33	1-17	1325	I-B	120	1006	1.47	555.11	1416	B	25	+30	1.92
34	3-18	0115	L-E	120	1176	2.05	556.81	2403		13	+20	1.83
35	3-18	1055	L-N-G	120	1304	1.98	557.46	2584	C	13	+03	.65
36	3-19	0045	A-N	120	1312	1.07	557.9	1398	C	13	+03	1.38
37	3-19	1245	CEJ	119	1323	.916	558.03	1212	C	20	0	1.33
38	3-20	0020	CEJ	119	1460	1.33	558.88	1935		16	+46	1.22
39	3-20	1345	A-H	120	1138	.918	558.07	1045		13	0	1.17
40	3-21	0830	S-P	120	1957	1.64	562.70	3215		17	+14	.83
41	3-23	1100	J-G	85	1696	.20	565.58	342*		4	-01	.38
42	3-24	1045	H-J	120	2194	.63	565.06	1392*	C	14	-02	1.17
43	3-26	1040	H-B	120	1869	1.31	562.27	2453		14	-05	.83
44	3-28	1025	H-L	120	1611	1.44	560.03	2314	C	14	+03	1.00
45	3-31	1040	H	120	1563	1.06	559.71	1656	C	14	-03	1.50
46	4-3	0935	J-H	120	1272	.68	557.50	871	C	14	-01	.83

A - measured at .6 of the depth

B - measured at .2, .6, and .8 of the depth

C - measured at .2 and .8 of the depth

*Measurement not accurate due to overbank flows

Table 6-20
Discharge Measurement Summary
ICM 0.9

No.	Date	Time	Made By	Width Ft	Area Sq Ft	Mean Velocity fps	Gage Height Ft	Flow cfs	Method	No. Meas. Sec- tions	Gage Ht. Change Ft.	Time req'd Hrs
	1979											
9-2*	1445	CEJ		208	1636	.29	555.06	478		23	-.07	2.25
1 9-28	1320	L,A,B		153	2093	.23	556.22	486		17	+.04	1.25
2 9-29	1000	L,N,B		155	1850	.23	557.57	-434		17	+.10	1.28
3 9-30	1230	I-G		160	1940	.40	558.49	890		33	-.17	2.00
4 10-1	1040	M-H		157	2006	.25	557.91	506		18	0	1.16
5 10-2	1135	L-S		155	1767	.15	557.16	272		17	-.01	1.05
6 10-3	1315	L-N		155	1712	.29	556.61	495		17	-.16	2.20
7 10-4	1150	L-N		155	1596	.14	556.17	219		17	-.02	1.00
8 10-5	1300	N-H		155	1620	.16	555.90	265		17	-.05	1.33
10 11-24	0920	GM-DN		160	1126	.42	553.85	474		17	+.02	1.00
11 11-24	1445	GM-DN		170	1266	.36	554.14	454		17	+.04	0.75
12 11-26	1145	N-E		155	1691	.24	555.66	410		17	+.02	1.75
13 11-27	0840	M-G		155	1548	.12	556.41	179		17	+.02	1.00
14 11-28	0800	M-G		155	1588	.15	556.61	245		17	-.02	0.83
15 11-28	1430	L-G		155	1734	.10	556.54	174		17	+.02	1.50
16 11-29	0740	J-G		155	1672	.04	556.58	72		17	-.02	1.08
17 11-29	1400	J-G		155	1664	.17	556.47	278		13	0	0.67
18 11-30	1000	L-J		156	1684	.10	556.16	166		17	-.01	1.50

Table 6-20 (continued)
Discharge Measurement Summary

ICM 0.9

No.	Date	Time	Made By	Width		Area Sq Ft	Mean Velocity		Gage Height		Flow cfs	Method	No. Meas- urements	Gage Ht. Change Ft.	Time req'd Hrs
				Ft			fps	Ft	Ft						
1980															
19	1-22	1830	M-L	155	1318		.31	554.76		409	B	17		+0.07	1.3
20	1-22	2220	M-L	155	1334		.35	554.86		468	B	17		+0.06	1.2
21	1-23	0130	M-L	155	1341		.42	554.96		569	B	17		+0.05	1.2
22	1-23	0540	M-L	155	1354		.43	555.09		584	B	17		+0.06	1.0
23	1-23	1105	OEM	155	1386		.48	555.02		661	B	17		+0.03	1.3
24	1-24	1045	N-E	157	1559		.13	555.88		198	B	18		+0.05	2.0
25	1-24	1510	N-E	157	1571		.13	555.97		211	B	18		+0.02	1.8
26	1-25	1030	L-M	170	1916		.28	556.06		543	B	18		0	1.0
27	1-25	1530	L-M	155	1640		.17	556.10		274	B	18		+0.02	.78
28	3-17	1200	DEM,SLC	145	1096		.85	554.26		935		16		+0.12	1.5
29	3-18	0000	DEM,SLC	155	1407		1.14	555.67		1609		17		+0.14	1.15
30	3-18	1230	DEM,SLC	150	1665		.92	556.76		1532		16		+0.27	2.0
31	3-19	0005	DEM,SLC	150	1567		.58	557.56		908		16		+0.08	1.08
32	3-19	1230	M-C	150	1755		.55	557.80		962		16		0	1.25
33	3-20	1230	C-B	150	2098		.78	558.52		1640		16		+0.15	1.33
34	3-22	1040	OEM,SLC	180	2979		.33	565.13		981		19			1.58
35	3-23	0920	J-G	185	3379		1.13	567.05		3829		16		-0.11	1.22
36	3-24	1050	G-C	155	2961		1.11			3285		16			1.33
37	3-26	1010	C-B	150	2405		1.14			2734		16			
38	3-28	0945	G-C	170	2196		.83	559.60		1817	B	17		-0.07	1.17
39	3-31	1010	G-C	155	2058		.68	559.52		1402	B	17		-0.05	1.17
40	4-3	0945	G-C	155	1828		.16	557.35		295	C	17		-0.02	1.50

A - measured at .5 of the depth

B - measured at .2, .6 and .8 of the depth

C - measured at .2 and .8 of the depth

*measurement made at ICM 1.7

Table 6-21

Discharge Measurement Summary

Indian Creek at Martin Road

No.	Date	Time	Made By	Width Ft	Area Sq Ft	Mean Velocity fps	Gage Height Ft	Flow cfs	Method	No. Meas. Sec- tions	Gage Ht. Change Ft.	Time req'd hrs
1	7-13		WDH	28	47	.42	558.47	20	A	15	0	.75
2	7-20		WDH	30	54	.42	558.55	23	A	20	+.02	.45
3	7-26		WDH	52	89	1.25	559.95	111	B	26	+.02	.80
4	8-7		WDH	28	58	.64	558.82	37	B	20	0	.67
5	9-1		CEJ	66	170	1.40	561.22	237	B	20	-.10	1.00
6	9-3		JRL-CEJ	49	64	1.14	559.48	73	A	24	0	.50
7	11-23	0025	CEJ-HS	79	281	1.62	562.50	456	A	22	-.02	

A - measured at .6 of the depth

B - measured at .2, .6, and .8 of the depth

TABLE 6-22
DDTR - SEDIMENT CONCENTRATION ANALYSES
HSB AT PATTON ROAD
STORMS 5-7

Date-Time	Sample Type*	Sediment Analyses		% Volatile Solids			DDTR Analyses (<63μ only)		Flow cfs
		>63μ G.F.*	<.45μ* Total	>63μ G.F.	Weighted Total*		Suspended	Dissolved	
		mg/l					μg/l	μg/l	
<u>Storm 5</u>									
1/18-0900	C	22	120	7	149	46	25	28	881
2215	C	6.6	42	<1	50	3.5	19	17	713
<u>Storm 6</u>									
1/22-1745	C	11	84	7	102	21	15	16	895
	.6D	15	78	6	99	26	14	16	
1/23-0145	C	7	51	7	65	23	19	11	1178
	.6D	7	45	7	59	26	9	11	
0745	C	4	37	6	47	21	9	10	944
	.6D	3	34	7	44	29	9	10	
1/24-0815	C	4	17	1	22	33	7	12	614
	.6D	2	16	2	20	37	5	8	
1055	C	6	16	<1	23	21	6	10	612
1/25-0755	C	3	20	2	25	34	6	9	529
	.6D	6	17	2	25	36	6	13	
1310	C	4	16	1	21	26	6	10	489
	.6D	<1	15	<1	17	22	9	10	
<u>Storm 7</u>									
3/17-1130	C	12	180	26	218	98	22	26	1725
	.6D	15	150	--		39	--		
1330	C	102	120	23	245	89	19	48	2114
	.6D	10	110	--		21	--		
1445	C	16	92	14	122	41	18	21	1788
	.6D	7	98	--		32	--		

TABLE 6-22
DDTR - SEDIMENT CONCENTRATION ANALYSES
HSB AT PATTON ROAD
STORMS 5-7

Date-Time	Sample Type*	Sediment Analyses				% Volatile Solids		DDTR Analyses (<63μ only)		Flow cfs	
		>63μ	G.F.*	<.45μ*	Total	>63μ	G.F. Weighted Total*	Suspended μg/l	Dissolved μg/l	Total μg/l	
		mg/l									
Storm 7 (continued)											
3/17-1715	C	10	89	29	128	15	15	0-.26	.01-.09	.01-.35	2348
	.6D	13	72	--		28	--				
2140	C	4	73	18	95	23	16	0-.19	.01-.09	.01-.28	2468
	.6D	5	70	--		12	--				
3/18-1235	C	3	50	14	67	27	10	0-.13	.01-.09	.01-.22	1051
	.6D	3	47	--		29	--				
1720	C	3	48	8	59	53	11	0-.25	.02-.10	.01-.35	1404
	.6D	<1	39	--		--	--				
3/19-0920	C	4	32	2	38	26	10	0-.18	.02-.09	.02-.27	1030
	.6D	<1	29	--		--	--				
1715	C	1	23	1	25	51	10	0-.12	.02-.10	.02-.22	842
	.6D	2	30	--		32	--				
3/20-1140	C	7	220	35	262	18	31				--
	.6D	5	210	--		16	--				
1705	C	16	160	42	218	73	21	0-1.34	.02-.10	.02-1.44	--
	.6D	19	160	--		19	--				
3/21-0945	C	<1	110	64	175	--	15	0-.22	.01-.09	.01-.31	2073
	.6D	1	120	--		41	--				
3/22-1050	C	3	41	22	66	14	15			.03-1.51	-84
	.6D	2	48	--		7	--				
3/24-1445	C	<1	29	14	44	--	15	0-.11	.02-.10	.02-.21	2442
	.6D	<1	28	--		--	--				
3/26-1405	C	4	100	36	140	7	21	0-1.41	.03-.10		1672
	.6D	3	83	--		21	--				
3/28-1325	C	14	26	10	50	7	9	0-.18	.03-.11	.03-.29	2101
	.6D	18	29	--		13	--				

TABLE 6-22

-61-

C - composite of samples at all depths taken across the transect
 .6D - composite of samples taken at .6 of the depth taken across the transect
 G.G.F. - nonfilterable residue passing a 63 μ sieve but retained on a glass filter pad
 .45 μ - nonfilterable residue passing a glass filter pad but retained on a .45 μ membrane filter
 Total % volatile solids calculated assuming same % volatile solids for the <.45 μ fraction as for the G.F. fraction

TABLE 6-23
DDTR - SEDIMENT CONCENTRATION ANALYSES
HSBM 2.4
STORMS 5-7

Date-Time	Sample Type*	Sediment Analyses			% Volatile Solids			DDTR Analyses (<63μ only)			Flow cfs		
		>63μ	G.F.*	mg/l	>63μ	G.F.	Weighted Total*	Suspended	Dissolved	Total			
Storm 5													
1/18-1200	C	8.5	130	6	144	9.6	26	25	13.26	3.24	16.50	483	474
1600	C	6.4	91	3	100	66	23	26	10.87	3.22	13.59	687	483
2100	C	9.1	80	4	93	87	22	28	2.44	3.49	5.93	787	446
2400	C	5.1	68	4	77	35	19	20	5.36	2.83	8.19	777	434
1/19-0200	C	4.9	68	4	77	80	19	23	6.26	3.06	9.32	774	428
1500	C	2.4	50	1	53	53	18	20	5.25	2.82	8.07	560	389
Storm 6													
1/22-2100	C	3	49	3	55	25	13	14	4.44	.93	5.37	611	384
.6D		2	51	2	55	28	11	12					
2400	C	13	52	4	69	7.5	12	11	6.46	.90	7.36	735	402
.6D		3	57	4	64	24	11	12					
1/23-0400	C	3	54	9	66	25	11	12	2.88	1.05	3.93	827	411
.6D		3	52	8	63	27	11	12					
0700	C	2	49	13	64	23	10	10	3.06	1.26	4.32	904	409
.6D		2	48	8	58	25	10	10					
1100	C	3	44	7	54	19	11	11	1.92	.64-.66	1.90-1.92	923	398
.6D		3	40	7	50	24	8	9					
1/24-0900	C	<1	23	2	26	21	14	14	1.06	.32-.37	1.38-1.43	595	325
.6D		<1	24	4	29	65	7	9					
1400	C	<1	22	1	24	34	8	9	.68	.38-.43	1.06-1.11	530	313
.6D		<1	20	2	23	69	7	10					

TABLE 6-23

DDTR - SEDIMENT CONCENTRATION ANALYSES

HSBM 2.4

STORMS 5-7

Date-Time	Sample Type*	Sediment Analyses				% Volatile Solids				DDTR Analyses (<63µ only)				Flow cfs
		>63µ	G.F.*	<.45µ*	Total mg/l	>63µ	G.F.	Weighted Total*	Suspended	Dissolved	Total	µg/l	µg/l	
Storm 6 (continued)														
1/25-0900	C	2	23	2	27	9.8	7	7	1.21	1.46	2.67	397	300	
	.6D	<1	20	<1	22	26	5	6						
1400	C	<1	20	1	22	13	7	7	1.10	.74-.76	1.84-1.84	390	300	
	.6D	<1	20	2	23	38	6	7						
Storm 7														
3/17-1300	C	8	79	11	98	35	16	18	6.12-6.17	1.67	7.79-7.84	1186	417	
	.6D	6	74			30								
1545	C	6	74	13	93	54	16	18	4.41-4.46	1.59	6.0-6.05	1300	477	
	.6D	5	76			51								
1730	C	5	84	16	105	47	18	19	3.3-3.35	1.37	4.67-4.72	1533	530	
	.6D	3	84			24								
2040	C	6	85	28	119	33	16	17	2.04-2.09	.97	3.01-3.06	1724	737	
	.6D	5	80			69								
2340	C	2	80	24	106	24	16	16	2.07-2.12	1.01	3.08-3.13	1900	860	
	.6D	2	86			22								
3/18-0120	C	2	84	17	103	26	16	16	1.62-1.67	.95	2.57-2.62	1988	895	
	.6D	13	71			87								
0400	C	3	82	19	104	30	15	15	2.81-2.86	.86	3.67-3.72	1980	945	
	.6D	1	80			26								
0600	C	8	72	20	100	81	15	20	2.62-2.67	1.01	3.63-3.68	1981	974	
	.6D	<1	67			--								
0740	C	12	64	21	97	21	15	16	2.08-2.13	.92	3.0-3.05	1900	964	
	.6D	22	64			25								

TABLE 6-23

DCTR - SEDIMENT CONCENTRATION ANALYSES

HSBM 2.4
STORMS 5-7

Date-Time	Sample Type*	Sediment Analyses		% Volatile Solids		DCTR Analyses (<63µ only)		Flow cfs					
		>63µ	G.F.* mg/l	<.45µ* Total	>63µ G.F. Total*	Suspended µg/l	Dissolved µg/l						
Storm 7 (continued)													
3/18-1000	C	3	63	29	95	42	13	14	1.77-1.83	1.03-1.05	2.8-2.88	1825	907
	.6D	3	60			23							
1120	C	7	61	27	95	14	16	16	.96-1.01	.72-.74	1.68-1.75	1800	900
	.6D	3	52			56							
1255	C	2	56	18	76	66	12	13	1.09-1.15	.68-.73	1.77-1.88	1760	890
	.6D	<1	56			--							
1530	C	1	52	18	71	<1	12	12	.74-.79	.49-.54	1.23-1.33	1708	860
	.6D	<1	49			--							
3/18-1745	C	10	46	16	72	26	10	12		.45-.47		1650	814
	.6D	<1	52			--							
3/19-1000	C	<1	37	7	45	--	17	17	--	--	--	1140	--
	.6D	1	39			7							
1805	C	<1	30	4	35	--	16	16	.92-.99	.51-.53	1.43-1.52	1100	331
	.6D	1	31			30							
3/20-1005	C	2	27	3	32	14	16	16	1.0-1.27	.48-.53	1.48-1.80	1036	579
	.6D	1	24			13							
1740	C	<1	24	4	29	--	14	14	.31-.34	.4-.42	.71-.76	--	--
	.6D	<1	27			--							
3/21-1030	C	3	92	51	146	3	16	16		.24		3056	--
	.6D	1	110			38							
3/22-0900	C	1	76	67	144	25	14	14	.17-.31	.25-.30	.42-.61	472	--
	.6D	<1	100			--							
3/23-1205	C	4	79	66	149	8	16	16	--	--	--	1505	--
	.6D	7	84			9							
3/24-1410	C	<1	42	27	70	--	16	16	0-.31	.2-.22	.20-.53	2570	--
	.6D	<1	44			--							

TABLE 6-23
DTR - SEDIMENT CONCENTRATION ANALYSES
HSBM 2.4
STORMS 5-7

Date-Time	Sample Type*	Sediment Analyses		% Volatile Solids >63µ G.F. Weighted Total*	>63µ G.F. Weighted Total	DTR Analyses (<63µ only)		Flow cfs Measured Note1
		>63µ	<.45µ*			Suspended	Dissolved Total	
		µg/l	µg/l			µg/l	µg/l	
Storm 7 (continued)								
3/26-1325	C	20	24	15	59	.29-.34	.33-.38	.62-.72
	.6D	1	32		20			2055
3/28-1345	C	<1	21	6	28	.47-.52	.35-.40	.82-.92
	.6D	<1	21					1601
3/31-1505	C	<1	18	13	32	.28-.37	.28-.33	.56-.70
	.6D	4	18		18			1099
4/3-1135	C	2	17	2	21	.79-.84	.50-.55	1.29-1.39
	.6D	6	15		20			495

*NOTES:

C - composite of samples at all depths taken across the transect
.6D - composite of samples taken at .6 of the depth taken across the transect
G.F. - nonfilterable residue passing a 63µ sieve but retained on a glass filter pad
.45µ - nonfilterable residue passing a glass filter pad but retained on a .45µ membrane filter
Total % volatile solids calculated assuming same % volatile solids for the <.45µ fraction as for the G.F. fraction

TABLE 6-24
DDTR - SEDIMENT CONCENTRATION ANALYSES
ICM 4.6
STORMS 5-7

Date-time	Sample Type*	Sediment Analyses		Total	% Volatile Solids		DDTR Analyses (<63μ only)		Flow cfs
		>63μ	G.F.*	<.45μ*	>63μ	G.F.	Suspended	Dissolved	
			mg/l		Total*		μg/l	μg/l	Measured Model
Storm 5									
1/18-1500	C	3	110	5	118	65	4.77	3.01	625
2100	C	3.7	84	8	96	77	8.33	4.31	581
2300	C	21	100	4	125	85	8.33	3.99	441
1/19-0200	C	4.2	95	9	108	35	8.68	2.73	--
1600	C	.8	44	2	47	9	1.85-1.76	3.42	697
								5.18-5.27	508
Storm 6									
1/22-2000	C	<1	25	3	29	65	1.27-1.28	1.42-1.45	773
.6D		4	29	1	34	24			787
2400	C	<1	35	2	38	69	1.77	.48-.53	808
.6D		9	42	3	54	10			
1/23-0400	C	<1	44	4	49	37	2.21	1.57	1102
.6D		<1	49	5	55	78		3.78	772
0700	C	<1	48	4	53	44	2.69	1.21	732
.6D		<1	48	4	53	92		3.90	
1100	C	<1	63	5	69	44	2.51	1.56	677
.6D		<1	51	6	58	67		4.07	
1/24-1100	C	<1	26	4	31	86	.58-.59	1.16	497
.6D		<1	32	4	37	54		1.74-1.75	728
1500	C	<1	31	2	34	46	.53-.54	.23-.28	503
.6D		20	80	4	104	9		.76-.82	673
1/25-1000	C	<1	57	2	60	36	.53-.54	1.12	488
.6D		<1	82	3	86	51		1.65-1.66	632
1500	C	<1	18	<1	20	82	.54-.55	.86-.88	560
.6D		<1	47	3	51	18		1.40-1.43	489

TABLE 6-24
DDE - SEDIMENT CONCENTRATION ANALYSES
ICM 4.6
STORMS 5-7

Date-Time	Sample Type	Sediment Analyses		% Volatile Solids		DDE Analyses (<63µ only)		Flow m/s	
		>63µ G.F.*	<.45µ* Total	>63µ G.F. Weighted Total*		Suspended	Dissolved	Total	Measured
		mg/l				mg/l	mg/l	mg/l	Model
Storm 7									
3/17-1400	C	7	110	11	128	20	18	18	1270
	.6D	8	110			18			
1730	C	10	130	17	157	22	20	20	1380
	.6D	11	120			20			
3/18-0155	C	5	100	33	138	17	17	17	1712
	.6D	3	100			24			
0715	C	10	120	26	156	19	11	12	1740
	.6D	3	87			30			
1110	C	<1	68	22	91	--	15	15	1590
	.6D	<1	56			--			
1720	C	<1	53	24	78	--	14	14	1320
	.6D	<1	50			--			
3/19-0055	C	<1	49	15	65	--	12	12	1030
	.6D	<1	46			--			
0645	C	22	40	15	77	<1	18	13	930
	.6D	84	39			<1			
1305	C	21	41	11	73	1	16	12	750
	.6D	88	40			8			
1835	C	21	37	10	68	1	17	12	650
	.6D	86	38			<1			
3/20-0140	C	19	30	--	49	3	15	10	710
	.6D	120	32			3			
0630	C	23	31	10	64	1	16	11	820
	.6D	120	27			--			

TABLE 6-24

DDTP - SEDIMENT CONCENTRATION ANALYSES
ICM 4.6

STORMS 5-7

Date-Time	Sample Type*	Sediment Analyses			% Volatile Solids			DDTR Analyses (<63µ only)			Flow cfs		
		>63µ	G.F.*	<.45µ* Total mg/l	>63µ	G.F.	Weighted Total*	Suspended µg/l	Dissolved µg/l	Total µg/l			
Storm 7 (continued)													
3/20-1415	C	5	24	<1	30	8	16	15	.55-.61	.49-.54	1.04-1.15	1935	--
	.6D	86	24			1							
1840	C	<1	22	2	25	--	15	15	.32-.39	.40-.42	.72-.81	--	--
	.6D	1	29			87							
3/21-0800	C	--	--	--	--	--	--	--	--	--	--	3215	--
	.6D	--	--			--							
3/23-0955	C	3	78	55	136	3	15	15	--	--	--	342	--
	.6D	<1	85			--							
3/24-1110	C	1	63	--	64	9	11	11	0-.24	.08-.14	.08-.38	1392	--
	.6D	5	58			40							
3/26-1100	C	1	26	15	42	12	14	14	.02-.13	.23-.28	.25-.41	2453	--
	.6D	<1	24			--							
3/28-1030	C	2	23	10	35	3	7	7	.05-.20	.26-.31	.31-.51	2314	--
	.6D	1	19			29							
3/31-1230	C	<1	23	8	32	--	8	8	.16-.21	.38-.40	.54-.61	1656	--
	.6D	1	28			60							
4/3-1000	C	1	21	2	24	25	8	9	.66-.70	.47-.52	1.13-1.22	871	--
	.6D	<1	17			--							

*NOTES:

C - composite of samples at all depths taken across the transect

.6D - composite of samples taken at .6 of the depth taken across the transect

G.F. - nonfilterable residue passing a 63 μ sieve but retained on a glass filter pad.45 μ - nonfilterable residue passing a glass filter pad but retained on a .45 μ membrane filterTotal % volatile solids calculated assuming same % volatile solids for the <.45 μ fraction as for the G.F. fraction

TABLE 6-25
DTP - SEDIMENT CONCENTRATION ANALYSES
ICN 0.9
STORMS 5-7

Date-Time	Sample Type	Sediment Analyses		Volatile Solids		DTP Analyses (<63µ only)		Flow cfs
		>63µ S.F.*	<.45µ* Total	>63µ S.F.	Weighted Total*	Suspended Solids	Dissolved Total	
		mg/l				mg/l	mg/l	Measured Model
Storm 5								
1/18-1500	C	.4	54	2	56	71	18	19
2030	C	.5	44	2	46	71	17	18
2330	C	1.0	57	3	61	28	18	18
1/19-0200	C	.7	63	5	69	61	20	20
1600	C	.5	54	4	58	53	18	18
Storm 6								
1/22-1900	C	<1	28	1	30	64	8	10
	.6D	<1	30	<1	32	23	8	8
2300	C	<1	28	1	30	64	9	11
	.6D	<1	31	2	34	57	7	8
1/23-0200	C	<1	29	<1	31	54	8	9
	.6D	<1	23	3	27	88	9	12
0600	C	2	36	3	41	92	9	13
	.6D	<1	35	2	38	75	10	12
1200	C	<1	44	3	48	21	10	10
	.6D	<1	41	4	46	56	9	10
1/24-1200	C	<1	32	7	40	10	8	8
	.6D	<1	33	5	39	69	9	10
1700	C	<1	33	5	39	31	6	7
	.6D	<1	32	4	37	53	8	9
1/25-1100	C	<1	30	5	36	24	7	7
	.6D	<1	24	4	29	84	8	11
1600	C	<1	25	3	29	44	8	9
	.6D	<1	26	3	30	71	8	10

TABLE 6-25

DDTR - SEDIMENT CONCENTRATION ANALYSES

ICM 0.9

STORMS 5-7

Date-Time	Sample Type*	Sediment Analyses		% Volatile Solids		DDTR Analyses (<63 μ only)		Flow cfs	
		>63 μ	G.F.*	<.45 μ * Total	>63 μ	G.F. Weighted Total*	Suspended	Dissolved	Total
				mg/l			μ g/l	μ g/l	μ g/l
Storm 7									
3/17-1215	C	2	79	6	87	24	14	14	3.87-3.96
	.6D	1	75			53			935
1800	C	1	100	15	116	28	18	18	3.87-3.96
	.6D	1	95			53			5.18-5.27
3/18-0005	C	5	160	22	187	23	23	23	9.51-9.61
	.6D	9	170			23			1609
0725	C	2	120	35	157	31	18	18	7.32-7.42
	.6D	3	110			65			2.19
1240	C	<1	83	25	109	--	16	16	9.51-9.61
	.6D	1	87			--			1488
1800	C	1	64	26	93	--	14	14	6.96-7.04
	.6D	1	71			--			1560
3/19-0015	C	1	55	22	78	--	12	12	2.67-2.76
	.6D	1	52			--			1.34
0640	C	1	52	19	72	--	14	14	1.29-1.38
	.6D	1	51			--			1.15-1.17
1300	C	1	44	16	61	--	11	11	.55-.67
	.6D	1	47			--			.99
1800	C	20	40	14	74	--	10	10	1.54-1.66
	.6D	83	42			--			2.87-2.99
3/20-0125	C	18	40	11	69	--	8	8	1.55-1.60
	.6D	73	39			--			1.95-2.07
0630	C	17	40	6	63	--	10	10	.92
	.6D	66	37			--			.92
1250	C	18	34	9	61	--	10	10	.38-.43
	.6D	70	29			--			.66-.71
						--			1.04-1.14
						--			.85-.91
						--			1640
						--			928

TABLE 9-15
DDTR - SEDIMENT CONCENTRATION ANALYSES
ICM 0.9
STORMS 1-7

Date-Time	Sample Type*	Sediment Analyses			% Volatile Solids			DDT Analyses (<63μ only)			Flow cfs	
		>63μ G.F.*	<.45μ* Total	ug/l	>63μ G.F.*	Weighted Total*	Suspended	Dissolved	Total			
Storm 7 (continued)												
1710	C	1	28	5	34	68	10	12	.32-.38	.64-.66	.96-1.04	--
	.6D	2	29			75						
3/22-1100	C	<1	58	27	86	--	11	11	.24-.71	.21-.26	.45-.97	981
	.6D	<1	63			--						
3/23-0950	C	2	58	15	75	11	13	13	.69-.86	.23-.28	.92-1.14	3829
	.6D	3	60			36						
3/24-1120	C	<1	57	37	95	--	12	12	.17-.26	.22-.27	.39-.53	3285
	.6D	<1	58			--						
3/24-1045	C	<1	38	33	72	--	17	17	.42-.51	.50-.52	.92-1.03	2734
	.6D	1	35			<1						
3/28-1000	C	<1	25	5	31	--	16	16	.03-.07			1817
	.6D	<1	23			--						
3/31-1035	C	1	33	13	47	18	9	9	.66-.72	.21-.34	.87-1.06	1402
	.6D	3	39			71						
4/3-1005	C	6	26	<1	33	16	8	9	1.25-1.32	.36-.41	1.61-1.73	295
	.6D	1	21			71						

*NOTES:

- C - composite of samples at all depths taken across the transect
- .6D - composite of samples taken at .6 of the depth taken across the transect
- G.F. - nonfilterable residue passing a 63μ sieve but retained on a glass filter pad
- .45μ - nonfilterable residue passing a glass filter pad but retained on a .45μ membrane filter
- Total % volatile solids calculated assuming same % volatile solids for the <.45μ fraction as for the G.F. fraction

Table 6-26

Bed Sediment Data

Storm Time (Date) Sampled	Duration of Sampling hr.	HSB at Patton Rd.		HSBM 2.4		ICM 4.6		ICM 1.7	
		Sample wt. g	DDTR conc. ug/g	Sample wt. g	DDTR conc. ug/g	Sample wt. g	DDTR conc. ug/g	Sample wt. g	DDTR conc. ug/g
1 1015(8/26/79) - 1015(8/29/79)	72	-	-	22.9	69.8	2.71* .90	56.9 56.7	-	-
2 0030(9/2/79) - 1030(9/5/79)	82	12.94*	7.17	14.9	1377	20.8 64.5	257.0 200.0	-	-
3 1700(9/27/79) - 1400(10/5/79)	189	0.29	25.7	12.9	277	7.49	259	10.50*	6.52
4 1900(11/23/79) - 1100(11/30/79)	160	6.35	6.62	6.58	536	138	125	22.0*	25.6

*Sampler had 4" x 4" orifice; all other samples taken with samplers having a 3" x 3" opening

the site itself or from the nearby landfills. Table 6-27 summarizes the results of these special grab samples. The spring pool at HSBM 4.9 listed in Table 6-27 is also identified in the listing of the data in the Appendix as a "goldfish pond." The "sulphur spring" listed in the appendix is on the right bank at approximately HSBM 4.85. This spring was inundated at higher flows.

Table 6-27

Special Samples

<u>Date</u>	<u>Location</u>	<u>DDTR(μg/l)</u>
8/28/79	Newly cut ditch that drains new landfill	.20-.44
8/28	Untreated water in new DDT ditch above Activated Carbon Treatment (ACT) plant	12.1
8/28	Treated water from new DDT ditch (below ACT plant)	.83-.95
8/28	Seep near groundwater well RS-024	.13-.49
8/28	Spring pool on right bank near HSBM 4.9	2.55
9/1	Drain east of new DDT ditch (water)	.35-.51
9/1	Drain east of new DDT ditch (water and bottom sediments)	.06-.42
9/1	Right bank at HSBM 5.13 just upstream of beaver dam and trash backup	0-.40
10/4	Seep near ground water well RS-024	0-1.2
10/4	Spring pool on right bank near HSBM 4.9	0-1.8

APPENDIX

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK 6 - ASSESSMENT OF DDT TRANSPORT - HYDROLOGIC AND SEDIMENT DATA
SAMPLING AND COMPOSITING VARIABILITY STUDY OF DDT CONCENTRATIONS MEASURED IN RUNOFF

RAIN EVENT	BEGINNING DATE-TIME	ENDING DATE-TIME	SAMPLING LOCATION	DEPTH	LAB	SUSPENDED SOLIDS-MG/L	DDT-C,P (UG/L)	DDT-P,P (UG/L)	DDO-O,P (UG/L)	DDE-O,P (UG/L)	DDE-P,P (UG/L)	TOTAL		DTR-- MINIMUM (UG/L)	MAXIMUM (UG/L)
1	26AUG79	1420	26AUG79	1420	LEFT	1	6-037	0.30	1.20	4.00	7.95	0.62	1.36	15.43	15.43
1	26AUG79	1437	26AUG79	1437	LEFT	2	6-038	0.32	1.99	3.75	5.62	0.68	1.22	13.58	13.58
1	26AUG79	1433	26AUG79	1437	LEFT	3	6-039	0.31	0.99	3.75	5.62	0.68	1.22	12.04	12.04
1	26AUG79	1438	26AUG79	1444	LEFT	4	6-040	0.30	1.08	4.14	5.96	0.62	1.29	13.39	13.39
1	26AUG79	1450	26AUG79	1453	MIDDLE	1	6-041	0.29	1.05	3.82	5.84	0.57	1.24	12.81	12.81
1	26AUG79	1454	26AUG79	1456	MIDDLE	2	6-042	0.34	1.17	4.25	6.05	0.65	1.30	13.76	13.76
1	26AUG79	1457	26AUG79	1459	MIDDLE	3	6-043	0.33	1.40	3.56	5.18	0.63	1.18	12.28	12.28
1	26AUG79	1500	26AUG79	1502	MIDDLE	4	6-044	0.33	1.13	3.56	4.99	0.62	1.11	11.74	11.74
1	26AUG79	1503	26AUG79	1505	RIGHT	1	6-045	0.32	0.95	4.06	5.55	0.63	1.26	12.77	12.77
1	26AUG79	1506	26AUG79	1508	RIGHT	2	6-046	0.29	0.69	3.56	5.00	0.58	1.00	11.12	11.12
1	26AUG79	1509	26AUG79	1511	RIGHT	3	6-047	0.32	0.73	4.52	6.72	0.65	1.82	14.76	14.76
1	26AUG79	1512	26AUG79	1515	RIGHT	4	6-048	0.33	1.04	4.72	6.64	0.69	1.51	14.93	14.93
1	26AUG79	1436	26AUG79	1441	RIGHT	2	6-049	0.34	0.80	4.32	6.22	0.68	1.48	13.84	13.84
1	26AUG79	1442	26AUG79	1446	RIGHT	2	6-050	0.32	0.93	4.25	6.25	0.65	1.51	13.91	13.91
1	26AUG79	1447	26AUG79	1451	RIGHT	2	6-051	0.29	0.63	4.10	5.90	0.54	1.34	12.85	12.85
1	26AUG79	1452	26AUG79	1457	RIGHT	2	6-052	0.37	1.00	4.26	5.84	0.59	1.40	13.41	13.41
1	26AUG79	1458	26AUG79	1503	RIGHT	2	6-053	0.31	1.09	3.89	5.60	0.59	1.28	12.76	12.76
1	26AUG79	1504	26AUG79	1509	RIGHT	2	6-054	0.29	0.68	3.62	5.32	0.56	1.21	11.66	11.66
1	26AUG79	1510	26AUG79	1514	RIGHT	2	6-055	0.32	0.84	3.47	4.73	0.66	1.02	11.04	11.04
1	26AUG79	1732	26AUG79	1739	COMPOSITE	50.0	6-056	0.28	3.15	4.12	6.80	0.65	1.42	16.42	16.42
1	26AUG79	1740	26AUG79	1747	COMPOSITE	50.0	6-060	0.28	1.71	3.68	5.83	0.62	1.33	13.45	13.45
1	26AUG79	1745	26AUG79	1754	COMPOSITE	51.0	6-061	0.31	2.83	3.62	5.78	0.63	1.20	14.37	14.37
1	26AUG79	1755	26AUG79	1801	COMPOSITE	51.0	6-062	0.29	2.64	3.71	6.05	0.64	1.27	14.60	14.60
1	26AUG79	1802	26AUG79	1808	COMPOSITE	50.0	6-063	0.32	2.20	3.96	6.44	0.69	1.29	14.90	14.90
1	26AUG79	1809	26AUG79	1812	COMPOSITE	51.0	6-064	0.28	2.54	3.70	6.44	0.59	1.19	14.48	14.48
2	2SEP79	2115	2SEP79	2122	LEFT	1	6-143	0.09	1.11	1.27	2.14	0.19	0.46	5.26	5.26
2	2SEP79	2122	2SEP79	2130	LEFT	2	6-144	0.12	1.98	1.49	3.07	0.24	0.58	7.48	7.48
2	2SEP79	2141	2SEP79	2147	LEFT	3	6-145	0.17	1.25	1.67	3.99	0.26	0.62	7.96	7.96
2	2SEP79	2233	2SEP79	2239	MIDDLE	4	6-146	0.10	1.66	1.40	2.29	0.22	0.55	6.22	6.22
2	2SEP79	2233	2SEP79	2239	MIDDLE	1	6-147	0.13	1.37	1.43	2.02	0.23	0.57	5.75	5.75
2	2SEP79	2233	2SEP79	2239	MIDDLE	2	6-148	0.15	1.84	1.68	2.73	0.26	0.63	7.29	7.29
2	2SEP79	2233	2SEP79	2239	MIDDLE	3	6-149	0.11	1.44	1.45	3.40	0.23	0.57	7.40	7.40
2	2SEP79	2233	2SEP79	2239	MIDDLE	4	6-150	0.14	1.54	1.44	2.94	0.21	0.50	6.77	6.77
2	2SEP79	2246	2SEP79	2258	RIGHT	1	6-151	0.12	2.03	1.46	3.08	0.21	0.52	7.42	7.42
2	2SEP79	2258	2SEP79	2258	RIGHT	2	6-152	0.10	0.92	1.28	2.18	0.19	0.46	5.13	5.13
2	2SEP79	2258	2SEP79	2258	RIGHT	3	6-153	0.10	0.79	1.38	3.02	0.20	0.47	5.96	5.96
2	2SEP79	2258	2SEP79	2258	RIGHT	4	6-154	0.12	1.04	1.54	2.97	0.24	0.57	6.48	6.48
3	1OCT79	1510	1OCT79	1527	LEFT	1	6-238	< 0.08	< 0.08	0.59	0.89	0.09	0.20	1.77	1.93
3	1OCT79	1510	1OCT79	1527	MIDDLE	1	6-239	< 0.08	0.09	0.55	0.79	0.09	0.18	1.70	1.78
3	1OCT79	1510	1OCT79	1527	RIGHT	1	6-240	< 0.08	0.30	0.82	1.46	0.14	0.30	3.22	3.30
3	1OCT79	1510	1OCT79	1527	LEFT	2	6-241	< 0.08	0.25	0.60	0.98	0.10	0.20	2.13	2.21
3	1OCT79	1510	1OCT79	1527	MIDDLE	2	6-242	< 0.08	0.13	0.61	0.93	0.10	0.21	1.98	2.06
3	1OCT79	1510	1OCT79	1527	RIGHT	2	6-243	< 0.08	0.36	0.95	1.70	0.17	0.37	3.55	3.63
3	1OCT79	1510	1OCT79	1527	LEFT	3	6-244	< 0.08	0.22	0.59	0.89	0.09	0.19	1.98	2.06
3	1OCT79	1510	1OCT79	1527	MIDDLE	3	6-245	< 0.08	0.28	0.65	0.95	0.10	0.23	2.18	2.26
3	1OCT79	1510	1OCT79	1527	RIGHT	3	6-246	< 0.08	0.13	0.62	1.05	0.11	0.23	2.32	2.40
3	1OCT79	1510	1OCT79	1527	LEFT	4	6-247	< 0.08	< 0.08	0.62	0.91	0.10	0.22	1.85	2.01
3	1OCT79	1510	1OCT79	1527	MIDDLE	4	6-248	< 0.08	< 0.08	0.62	0.91	0.09	0.21	1.83	1.99
3	1OCT79	1510	1OCT79	1527	RIGHT	4	6-249	< 0.08	< 0.08	0.59	0.84	0.08	0.18	1.69	1.85

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK 6 - ASSESSMENT OF DDT TRANSPORT - HYDROLOGIC AND SEDIMENT DATA

RAIN EVENT	BEGINNING DATE-TIME	ENDING DATE-TIME	HORIZONTAL LOCATION	LASTO WEIGHT OF SAMPLE--(G4)	CONCENTRATIONS OF DDT MEASURED IN BEDLOADS--UG/G								TOTAL	
					DDT-O,P (UG/G)	DDT-P,P (UG/G)	DDD-O,P (UG/G)	DDD-P,P (UG/G)	DDE-O,P (UG/G)	MINIMUM (UG/G)	MAXIMUM (UG/G)			
H-VILLE SPRING BRANCH 2.4 - LODD ROAD														
1	26AUG79	1310 29AUG79	.	6-100	22.90	2.40	22.40	9.55	24.40	3.05	8.00	69.80	69.80	
2	5SEP79	.	.	6-208	14.90	40.30	628.00	149.00	412.00	42.70	105.00	1377.00	1377.00	
3	.	.	.	6-306	12.90	6.35	156.00	19.30	61.60	7.73	25.80	276.78	276.78	
4	23NOV79	23NOV79	.	6-477	6.58	7.75	305.00	35.30	151.00	8.10	28.70	535.85	535.85	
H-VILLE SPRING BRANCH 5.6 - PATTON ROAD														
2	5SEP79	.	.	6-209	2.90	0.79	2.64	0.88	1.66	0.49	0.71	7.17	7.17	
3	.	.	.	6-301	0.29	3.04	2.43	4.46	10.40	1.47	3.72	25.72	25.72	
4	23NOV79	23NOV79	.	6-474	6.35	0.14	2.32	0.93	1.22	1.03	0.98	6.62	6.62	
INDIAN CREEK 0.9 - TRIANA														
3	.	.	.	6-299	10.50	0.18	3.73	0.39	1.41	0.23	0.58	6.52	6.52	
4	23NOV79	23NOV79	.	6-476	22.08	0.52	3.10	5.00	7.77	2.59	6.66	25.64	25.64	
INDIAN CREEK 4.6 - CENTERLINE ROAD														
3	.	.	.	6-302	7.49	8.09	153.00	8.24	72.00	3.82	14.00	259.15	259.15	
4	23NOV79	23NOV79	.	6-475	13.82	4.84	53.80	11.30	34.80	5.55	14.40	124.69	124.69	
INDIAN CREEK 4.6 - CENTERLINE ROAD CENTER OF CHANNEL														
2	5SEP79	.	.	6-210	20.80	3.54	26.30	36.00	135.00	18.80	37.60	257.24	257.24	
INDIAN CREEK 4.6 - CENTERLINE ROAD RIGHT														
2	5SEP79	.	.	6-211	64.50	1.56	104.00	14.50	51.90	5.90	22.40	200.26	200.26	
INDIAN CREEK 4.6 - CENTERLINE ROAD SAMPLE #1														
1	26AUG79	1340 29AUG79	.	6-101	2.71	0.71	14.90	8.70	22.80	2.85	6.95	56.91	56.91	
INDIAN CREEK 4.6 - CENTERLINE ROAD SAMPLE #2														
1	26AUG79	1350 29AUG79	.	6-102	0.90	0.91	22.60	6.38	17.60	2.42	6.81	56.72	56.72	

FOOTNOTES:

A. THE ABOVE DATA WERE COLLECTED USING KELLEY-SMITH BEDLOAD SEDIMENT SAMPLERS.

B. MINIMUM TOTAL DDTR CALCULATED BY SETTING ALL LESS THAN VALUES TO ZERO.

C. MAXIMUM TOTAL DDTR CALCULATED BY SETTING ALL LESS THAN VALUES TO THEIR ABSOLUTE VALUE.

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK 6 - ASSESSMENT OF DDT TRANSPORT - HYDROLOGIC AND SEDIMENT DATA

RAIN EVENT	BEGINNING DATE-TIME	ENDING DATE-TIME	HORIZONTAL LOCATION	LASTIC WEIGHT OF SAMPLE (G)	CONCENTRATIONS OF DDT MEASURED IN BEDLOADS-UG/G										---TOTAL MINIMUM (UG/G)		DDTR--- MAXIMUM (UG/G)	
					DDT-0,P (UG/G)	DDT-P,P (UG/G)	DDT-0,P (UG/G)	DDT-P,P (UG/G)	DDT-0,P (UG/G)	DDT-P,P (UG/G)	DDT-0,P (UG/G)	DDT-P,P (UG/G)	DDT-0,P (UG/G)	DDT-P,P (UG/G)	DDT-0,P (UG/G)	DDT-P,P (UG/G)		
H-VILLE SPRING BRANCH 2.4 - WOOD ROAD																		
1	26AUG79	1310	29AUG79	•	6-100	22.90	2.40	22.40	4.55	24.40	3.05	6.00	69.80	69.80	1377.00	1377.00	69.80	
2	5SEP79	•	•	•	6-208	14.90	40.30	628.00	149.00	412.00	42.76	105.00	276.78	276.78	276.78	276.78	276.78	
3	•	•	•	•	6-306	12.90	6.35	156.00	19.30	61.60	7.73	25.80	535.85	535.85	535.85	535.85	535.85	
4	23NOV79	•	23NOV79	•	6-477	6.58	7.75	305.00	35.30	151.00	8.10	28.70	•	•	•	•	•	
H-VILLE SPRING BRANCH 5.6 - PATTON ROAD																		
2	5SEP79	•	•	•	6-209	2.90	0.79	2.64	0.88	1.66	0.49	0.71	7.17	7.17	25.72	25.72	7.17	
3	•	•	•	•	6-301	0.29	3.04	2.43	4.46	10.40	1.67	3.72	6.62	6.62	6.62	6.62	6.62	
4	23NOV79	•	23NOV79	•	6-474	6.35	0.14	2.32	0.93	1.72	1.03	0.98	•	•	•	•	•	
INDIAN CREEK 0.9 - TRIANA																		
3	•	•	•	•	6-294	10.50	0.18	3.73	0.39	1.41	0.23	0.58	6.52	6.52	25.64	25.64	6.52	
4	23NOV79	•	23NOV79	•	6-476	22.08	0.52	3.10	5.00	7.77	2.54	6.66	•	•	•	•	•	
INDIAN CREEK 4.6 - CENTERLINE ROAD																		
3	•	•	•	•	6-302	7.49	8.09	153.00	8.24	72.00	3.82	14.00	259.15	259.15	259.15	259.15	259.15	
4	23NOV79	•	23NOV79	•	6-475	13.82	4.84	53.80	11.30	34.80	5.55	14.40	124.69	124.69	124.69	124.69	124.69	
INDIAN CREEK 4.6 - CENTERLINE ROAD CENTER OF CHANNEL																		
2	5SEP79	•	•	•	6-210	20.80	3.54	26.30	36.00	135.00	18.80	37.60	257.24	257.24	257.24	257.24	257.24	
INDIAN CREEK 4.6 - CENTERLINE ROAD RIGHT																		
2	5SEP79	•	•	•	6-211	64.50	1.56	104.00	14.50	51.90	5.90	22.40	200.26	200.26	200.26	200.26	200.26	
INDIAN CREEK 4.6 - CENTERLINE ROAD SAMPLE #1																		
1	26AUG79	1340	29AUG79	•	6-101	2.71	0.71	14.90	8.70	22.80	2.85	6.95	56.91	56.91	56.91	56.91	56.91	
INDIAN CREEK 4.6 - CENTERLINE ROAD SAMPLE #2																		
1	26AUG79	1350	29AUG79	•	6-102	0.90	0.91	22.60	6.38	17.60	2.42	6.81	56.72	56.72	56.72	56.72	56.72	

FOOTNOTES:

A. THE ABOVE DATA WERE COLLECTED USING KELLEY-SMITH BEDLOAD SEDIMENT SAMPLERS.

B. MINIMUM TOTAL DDTP CALCULATED BY SETTING ALL LESS THAN VALUES TO ZERO.

C. MAXIMUM TOTAL DDTP CALCULATED BY SETTING ALL LESS THAN VALUES TO THEIR ABSOLUTE VALUE.

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
 MONTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
 WHEELER RESERVOIR, ALABAMA

TASK 6 - ASSESSMENT OF DDT TRANSPORT - HYDROLOGIC AND SEDIMENT DATA

RAIN EVENT	BEGINNING DATE-TIME	ENDING DATE-TIME	HORIZONTAL LOCATION	LABID (UG/L)	SUS-SOL (UG/L)	VOL-SOL (L)	CONCENTRATIONS OF DDT MEASURED IN WATER (UG/L)					
							DDT-O,P (UG/L)	DDT-P,P (UG/L)	DDD-O,P (UG/L)	DDD-P,P (UG/L)	DDO-P,P (UG/L)	DDT-P,P (UG/L)

---TOTAL
 DDTR
 MINIMUM
 MAXIMUM
 (UG/L)

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK 6 - ASSESSMENT OF DDT TRANSPORT - HYDROLOGIC AND SEDIMENT DATA

RAIN EVENT	BEGINNING DATE-TIME	ENDING DATE-TIME	HORIZONTAL LABID LOCATION		CONCENTRATIONS OF DDT MEASURED IN WATER (UG/L)										TOTAL DDT	
					DDT-O,P (UG/L)	DDT-P,P (UG/L)	DDD-O,P (UG/L)	DDD-P,P (UG/L)	ODE-O,P (UG/L)	ODE-P,P (UG/L)	DISSOLVED (UG/L)	DISSOLVED (UG/L)	MINIMUM (UG/L)	MAXIMUM (UG/L)		
M-VILLE SPRING BRANCH - NEW DITCH DRAINING LAND FILL																
1	28AUG79	1020	28AUG79	6-090	.	.	.	.	.	.	.	.	.	.	.	.
M-VILLE SPRING BRANCH - NR GD WATER WELL RS-024																
1	28AUG79	1050	28AUG79	6-096	.	.	.	.	.	.	.	.	.	.	.	.
M-VILLE SPRING BRANCH - SPRING POOL ON RT BANK-MI 4.9																
1	28AUG79	1100	28AUG79	6-098	.	.	.	.	.	.	.	.	.	.	.	.
M-VILLE SPRING BRANCH - TREATLD WATER FROM DDT DITCH																
1	28AUG79	1035	28AUG79	6-094	.	.	.	.	.	.	.	.	.	.	.	.
M-VILLE SPRING BRANCH - UNTREATED WATER IN DDT DITCH																
1	28AUG79	1020	28AUG79	6-092	.	.	.	.	.	.	.	.	.	.	.	.
M-VILLE SPRING BRANCH 2.4 - DDDO ROAD																
1	26AUG79	1043	26AUG79	1112 COMPOSITE	6-033	0.140	0.080	1.910	2.940	0.220	0.360	0.220	0.360	5.650	9.650	5.650
1	26AUG79	1227	26AUG79	1247 COMPOSITE	6-035	0.140	0.090	1.980	2.940	0.230	0.370	0.230	0.370	5.750	9.750	5.750
1	26AUG79	1732	26AUG79	1812 COMPOSITE	6-058	0.110	0.080	1.980	3.040	0.200	0.300	0.200	0.300	5.630	9.710	5.710
1	26AUG79	2043	26AUG79	2100 COMPOSITE	6-066	0.150	0.080	2.080	4.940	0.260	0.380	0.260	0.380	7.890	12.890	7.890
1	27AUG79	1153	27AUG79	1216 COMPOSITE	6-066	0.180	0.090	1.960	3.490	0.280	0.440	0.280	0.440	6.440	11.440	6.440
1	27AUG79	1622	27AUG79	1638 COMPOSITE	6-070	0.130	0.080	2.180	5.000	0.240	0.360	0.240	0.360	7.990	12.990	7.990
1	28AUG79	1622	28AUG79	1639 COMPOSITE	6-072	0.130	0.080	1.840	4.600	0.240	0.330	0.240	0.330	7.140	12.220	7.220
1	29AUG79	1300	29AUG79	1320 COMPOSITE	6-074	0.140	0.080	2.110	3.370	0.250	0.370	0.250	0.370	6.240	11.320	6.320
2	29AUG79	315	29AUG79	357 COMPOSITE	6-134	0.090	0.110	1.420	2.810	0.140	0.270	0.140	0.270	4.840	9.840	4.840
2	29AUG79	1235	29AUG79	2258 COMPOSITE	6-141	0.080	0.120	1.020	1.350	0.120	0.240	0.120	0.240	2.850	5.850	2.930
2	30SEP79	100	30SEP79	240 COMPOSITE	6-156	0.080	0.080	0.790	1.070	0.090	0.180	0.090	0.180	2.130	3.290	2.290
2	30SEP79	930	30SEP79	941 COMPOSITE	6-156	0.080	0.080	0.890	1.140	0.110	0.220	0.110	0.220	2.360	3.520	2.520
2	30SEP79	1621	30SEP79	1632 COMPOSITE	6-160	0.080	0.080	0.980	1.240	0.110	0.210	0.110	0.210	2.540	3.700	2.700
2	30SEP79	1610	30SEP79	1628 COMPOSITE	6-162	0.080	0.080	1.430	1.850	0.140	0.250	0.140	0.250	3.750	5.830	3.830
2	30SEP79	1325	30SEP79	1340 COMPOSITE	6-164	0.110	0.090	1.640	2.660	0.160	0.310	0.160	0.310	4.970	7.970	4.970
3	27SEP79	1450	27SEP79	2010 COMPOSITE	6-230	0.100	0.080	1.210	2.220	0.120	0.210	0.120	0.210	3.860	5.940	3.940
3	28SEP79	458	28SEP79	532 COMPOSITE	6-232	0.090	0.080	1.140	1.990	0.120	0.210	0.120	0.210	3.600	5.680	3.680
3	29SEP79	220	29SEP79	240 COMPOSITE	6-234	0.080	0.080	0.580	0.700	0.100	0.160	0.100	0.160	1.560	2.720	1.720
3	30SEP79	1135	30SEP79	1155 COMPOSITE	6-236	0.080	0.080	0.430	0.740	0.090	0.150	0.090	0.150	1.610	2.770	1.770
3	30CT79	947	30CT79	1000 COMPOSITE	6-285	0.080	0.080	0.700	0.830	0.120	0.180	0.120	0.180	1.830	2.990	1.990
3	30CT79	1030	30CT79	1050 COMPOSITE	6-287	0.080	0.080	0.820	1.000	0.150	0.210	0.150	0.210	2.180	3.340	2.340
3	30CT79	1530	30CT79	1550 COMPOSITE	6-289	0.080	0.080	0.920	0.840	0.090	0.160	0.090	0.160	2.010	3.170	2.170
3	30CT79	1350	30CT79	1472 COMPOSITE	6-291	0.080	0.080	0.820	1.000	0.150	0.220	0.150	0.220	2.170	3.330	2.330
4	23NOV79	2245	23NOV79	2255 COMPOSITE	6-436	0.100	0.100	0.630	0.750	0.140	0.180	0.140	0.180	2.710	3.910	2.910
4	24NOV79	1240	24NOV79	1244 COMPOSITE	6-438	0.100	0.100	0.460	0.700	0.100	0.150	0.100	0.150	1.380	2.580	1.780
4	24NOV79	1900	24NOV79	1913 COMPOSITE	6-440	0.100	0.100	0.660	1.110	0.120	0.180	0.120	0.180	2.070	3.270	2.270
4	25NOV79	2145	25NOV79	2157 COMPOSITE	6-442	0.100	0.100	0.710	1.040	0.100	0.150	0.100	0.150	1.900	3.000	2.200
4	25NOV79	2245	25NOV79	2240 COMPOSITE	6-444	0.100	0.100	0.550	0.810	0.100	0.140	0.100	0.140	1.500	2.800	1.800
4	26NOV79	1612	26NOV79	1627 COMPOSITE	6-446	0.100	0.100	0.510	0.820	0.100	0.130	0.100	0.130	1.330	2.730	1.730
4	27NOV79	1545	27NOV79	1600 COMPOSITE	6-448	0.100	0.100	0.520	0.700	0.100	0.130	0.100	0.130	1.350	2.650	1.650
4	28NOV79	1407	28NOV79	1455 COMPOSITE	6-450	0.100	0.100	0.630	0.910	0.100	0.140	0.100	0.140	1.680	2.980	1.980
4	29NOV79	1000	29NOV79	1014 COMPOSITE	6-452	0.100	0.100	0.630	0.910	0.100	0.140	0.100	0.140	1.680	2.980	1.980

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK 6 - ASSESSMENT OF DDT TRANSPORT - HYDROLOGIC AND SEDIMENT DATA

					CONCENTRATIONS OF DDT MEASURED IN WATER (UG/L)										TOTAL		DO TR- MAXIMUM (UG/L)
					DISSOLVE D										MINIMUM (UG/L)	MAXIMUM (UG/L)	
RAIN EVENT	BEGINNING DATE-TIME	ENDING DATE-TIME	HORIZONTAL LOCATION	LABID	DDT-O,P (UG/L)	DDT-P,P (UG/L)	DDO-O,P (UG/L)	DDO-P,P (UG/L)	DDE-O,P (UG/L)	DDE-P,P (UG/L)							
3	20CT79 1349	20CT79 1402	COMPOSITE	6-293	< 0.080	< 0.080	< 0.080	< 0.080	< 0.040	< 0.040				0.000	0.400		
4	23NOV79 1915	23NOV79 1950	COMPOSITE	6-454	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100				0.000	0.400		
4	24NOV79 150	24NOV79 201	COMPOSITE	6-456	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100				0.000	0.400		
4	24NOV79 640	24NOV79 649	COMPOSITE	6-458	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100				0.000	0.400		
4	24NOV79 1430	24NOV79 1441	COMPOSITE	6-460	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100				0.000	0.400		
4	25NOV79 210	25NOV79 223	COMPOSITE	6-462	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100				0.000	0.400		
4	25NOV79 1230	25NOV79 1441	COMPOSITE	6-464	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100				0.000	0.400		
4	26NOV79 1419	26NOV79 1429	COMPOSITE	6-466	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100				0.000	0.400		
4	27NOV79 1345	27NOV79 1353	COMPOSITE	6-468	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100				0.000	0.400		
4	28NOV79 1014	28NOV79 1028	COMPOSITE	6-470	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100				0.000	0.400		
H-VILLE SPRING BRANCH 5.6 - LEFT BANK-NORTH BRANCH-HSB5.13																	
2	15SEP79 1105	15SEP79		6-202													
H-VILLE SPRING BRANCH 5.6 - 15B-DRAIN EAST OF FILTER PLANT																	
2	15SEP79 1015	15SEP79		6-200													
H-VILLE SPRING BRANCH 5.6 - 25B-DRAIN EAST OF FILTER PLANT																	
2	15SEP79 1015	15SEP79		6-201													
INDIAN CREEK 1.9 - TRIANA																	
1	27AUG79 900	27AUG79 926	COMPOSITE	6-001	< 0.080	< 0.080	0.570	0.900	0.110	0.110	0.110	1.490	1.850				
1	27AUG79 1000	27AUG79 1016	COMPOSITE	6-003	< 0.080	< 0.080	0.610	1.020	0.110	0.130	0.130	1.870	2.030				
1	27AUG79 1100	27AUG79 1120	COMPOSITE	6-005	< 0.080	< 0.080	0.640	1.030	0.120	0.130	0.130	1.920	2.080				
1	27AUG79 1415	27AUG79 1500	COMPOSITE	6-007	< 0.080	< 0.080	0.580	1.000	0.110	0.130	0.130	1.820	1.970				
1	28AUG79 944	28AUG79 959	COMPOSITE	6-009	< 0.080	< 0.080	0.610	0.970	0.100	0.130	0.130	1.810	1.970				
1	28AUG79 1347	28AUG79 1400	COMPOSITE	6-011	< 0.080	< 0.080	0.510	0.850	0.100	0.100	0.100	1.540	1.720				
1	29AUG79 935	29AUG79 950	COMPOSITE	6-013	< 0.080	< 0.080	0.540	0.890	0.090	0.110	0.110	1.630	1.790				
1	29AUG79 1526	29AUG79 1534	COMPOSITE	6-031	< 0.080	< 0.080	0.650	1.180	0.100	0.100	0.100	2.030	2.190				
3	28SEP79 1000	28SEP79 1050	COMPOSITE	6-212	< 0.080	< 0.080	0.380	0.650	0.070	0.180	0.180	1.280	1.440				
3	28SEP79 1600	28SEP79 1630	COMPOSITE	6-214	< 0.080	< 0.080	0.420	0.760	0.080	0.140	0.140	1.400	1.560				
3	29SEP79 1240	29SEP79 1310	COMPOSITE	6-216	0.120	0.150	0.220	0.430	0.050	0.100	0.100	1.070	1.230				
3	30SEP79 1433	30SEP79 1446	COMPOSITE	6-218	< 0.080	< 0.080	0.360	0.530	0.080	0.110	0.110	1.080	1.240				
3	1OCT79 1100	1OCT79 1135	COMPOSITE	6-267	< 0.080	< 0.080	0.330	0.570	0.040	0.070	0.070	1.010	1.170				
3	2OCT79 1307	2OCT79 1321	COMPOSITE	6-269	< 0.060	< 0.080	0.360	0.640	0.040	0.080	0.080	1.120	1.280				
3	3OCT79 1450	3OCT79 1510	COMPOSITE	6-271	< 0.080	< 0.080	0.170	0.300	< 0.040	< 0.040	< 0.040	0.470	0.710				
3	3OCT79 1253	3OCT79 1303	COMPOSITE	6-273	< 0.080	< 0.080	0.290	0.540	< 0.040	< 0.040	< 0.040	0.890	1.090				
3	5OCT79 1430	5OCT79 1441	COMPOSITE	6-275	< 0.080	< 0.080	0.350	0.630	0.040	0.070	0.070	1.090	1.250				
INDIAN CREEK 1.97 - TRIANA																	
4	4SEP79 1158	4SEP79 1216	COMPOSITE	6-103	< 0.080	< 0.080	0.480	0.720	0.070	0.100	0.100	1.370	1.530				
4	2SEP79 1442	2SEP79 1457	COMPOSITE	6-105	< 0.080	< 0.080	0.580	0.870	0.090	0.110	0.110	1.450	1.610				
2	4SEP79 1841	4SEP79 1854	COMPOSITE	6-107	< 0.080	< 0.080	0.630	0.930	0.090	0.130	0.130	1.780	1.940				
2	2SEP79 946	2SEP79 1015	COMPOSITE	6-109	< 0.080	< 0.080	0.590	0.940	0.090	0.150	0.150	1.770	1.930				
2	1SEP79 1247	1SEP79 1301	COMPOSITE	6-111	< 0.080	< 0.080	0.540	0.900	0.110	0.200	0.200	1.750	1.910				
2	3SEP79 1627	3SEP79 1643	COMPOSITE	6-113	< 0.080	< 0.080	0.550	0.900	0.100	0.150	0.150	1.700	1.860				
2	4SEP79 1115	4SEP79 1132	COMPOSITE	6-115	< 0.080	< 0.080	0.570	0.900	0.080	0.120	0.120	1.670	1.830				
2	4SEP79 1752	4SEP79 1804	COMPOSITE	6-117	< 0.080	< 0.080	0.560	0.870	0.070	0.100	0.100	1.560	1.720				
2	5SEP79 1034	5SEP79 1050	COMPOSITE	6-119	< 0.080	< 0.080	0.530	0.770	0.070	0.100	0.100	1.470	1.630				
4	4NOV79 930	4NOV79 1013	COMPOSITE	6-400	< 0.100	< 0.100	0.580	0.880	0.140	0.230	0.230	1.730	1.890				

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK 6 - ASSESSMENT OF DDT TRANSPORT - HYDROLOGIC AND SEDIMENT DATA

RAIN EVENT	BEGINNING DATE-TIME	ENDING DATE-TIME	HORIZONTAL LOCATION	LABID	CONCENTRATIONS OF DDT MEASURED IN WATER (UG/L)										TOTAL		DDTR MAXIMUM (UG/L)	
					DISSOLVED										MINIMUM (UG/L)	MAXIMUM (UG/L)		
					DDT-O,P (UG/L)	DDT-P,P (UG/L)	DDD-O,P (UG/L)	DDD-P,P (UG/L)	DDE-O,P (UG/L)	DDE-P,P (UG/L)	DDE-O,P (UG/L)	DDE-P,P (UG/L)	DDE-O,P (UG/L)	DDE-P,P (UG/L)				
4	24NOV79	1450	24NOV79	1525	COMPOSITE	6-402												
4	24NOV79	1300	26NOV79	1330	COMPOSITE	6-404												
4	27NOV79	856	27NOV79	927	COMPOSITE	6-406												
4	28NOV79	612	28NOV79	641	COMPOSITE	6-408												
4	28NOV79	1508	29NOV79	1544	COMPOSITE	6-410												
4	29NOV79	930	29NOV79	942	COMPOSITE	6-412												
4	29NOV79	1444	29NOV79	1456	COMPOSITE	6-414												
4	30NOV79	1055	30NOV79	1105	COMPOSITE	6-416												
INDIAN CREEK 4.6 - CENTERLINE ROAD																		
1	26AUG79	1132	26AUG79	1207	COMPOSITE	6-015												
1	26AUG79	2134	26AUG79	2152	COMPOSITE	6-017												
1	27AUG79	1102	27AUG79	1133	COMPOSITE	6-019												
1	27AUG79	1535	27AUG79	1552	COMPOSITE	6-021												
1	28AUG79	1235	28AUG79	1302	COMPOSITE	6-023												
1	28AUG79	1705	28AUG79	1730	COMPOSITE	6-025												
1	28AUG79	2053	29AUG79	2114	COMPOSITE	6-027												
1	29AUG79	1337	29AUG79	1356	COMPOSITE	6-029												
1	29SEP79	925	29SEP79	945	COMPOSITE	6-121												
1	29SEP79	1532	29SEP79	1549	COMPOSITE	6-123												
2	29SEP79	2326	29SEP79	2340	COMPOSITE	6-125												
2	30SEP79	1005	30SEP79	1018	COMPOSITE	6-127												
2	30SEP79	1345	30SEP79	1359	COMPOSITE	6-129												
2	30SEP79	1642	30SEP79	1655	COMPOSITE	6-131												
2	4SEP79	1420	4SEP79	1446	COMPOSITE	6-133												
2	4SEP79	1640	4SEP79	1657	COMPOSITE	6-135												
2	5SEP79	1355	5SEP79	1415	COMPOSITE	6-137												
2	5SEP79	1500	5SEP79			6-206												
3	27SEP79	2150	27SEP79	2212	COMPOSITE	6-222												
3	28SEP79	945	28SEP79	1004	COMPOSITE	6-224												
3	30SEP79	1320	30SEP79	1340	COMPOSITE	6-226												
3	10CT79	1140	10CT79	1300	COMPOSITE	6-228												
3	20CT79	1122	20CT79	1145	COMPOSITE	6-277												
3	30CT79	1325	30CT79	1350	COMPOSITE	6-279												
3	40CT79	1120	40CT79	1140	COMPOSITE	6-281												
3	50CT79	1130	50CT79	1201	COMPOSITE	6-283												
4	24NOV79	358	24NOV79	409	COMPOSITE	6-418												
4	24NOV79	1103	24NOV79	1112	COMPOSITE	6-420												
4	26NOV79	1105	26NOV79	1116	COMPOSITE	6-422												
4	27NOV79	1134	27NOV79	1146	COMPOSITE	6-424												
4	28NOV79	912	28NOV79	928	COMPOSITE	6-426												
4	28NOV79	1550	28NOV79	1612	COMPOSITE	6-428												
4	29NOV79	800	29NOV79	826	COMPOSITE	6-430												
4	29NOV79	1330	29NOV79	1345	COMPOSITE	6-432												
4	30NOV79	1355	30NOV79	1404	COMPOSITE	6-434												

FOOTNOTES:

- A. MISSING DATA FOR DISSOLVED DDT CONCENTRATIONS INDICATE ANALYSES WERE PERFORMED FOR TOTAL DDT CONCENTRATIONS ONLY.
B. MINIMUM TOTAL DDTR CALCULATED BY SETTING ALL LESS THAN VALUES TO ZERO.
C. MAXIMUM TOTAL DDTR CALCULATED BY SETTING ALL LESS THAN VALUES TO THEIR ABSOLUTE VALUE.

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK 6 - ASSESSMENT OF DDT TRANSPORT - HYDROLOGIC AND SEDIMENT DATA

RAIN EVENT	BEGINNING DATE-TIME	ENDING DATE-TIME	HORIZONTAL LABID LOCATION	CONCENTRATIONS OF DDT MEASURED IN WATER (UG/L)				
				DDT-O,P (UG/L)	DDT-P,P (UG/L)	DDD-O,P (UG/L)	DDD-P,P (UG/L)	DDT TOTAL DDT MINIMUM MAXIMUM (UG/L)

TASK 6 - ASSESSMENT OF DOT TRANSPORT - HYDROLOGIC AND SEDIMENT DATA

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TASK 6 - ASSESSMENT OF DDT TRANSPORT - HYDROLOGIC AND SEDIMENT DATA

RAIN EVENT	BEGINNING DATE-TIME	ENDING DATE-TIME	HORIZONTAL LOCATION	LABILE SUS-SOL (MG/L)	VOL-SOL (%)	CONCENTRATIONS OF DDT MEASURED IN SEDIMENT-UG/G										TOTAL FRACTION >0.63U		TOTAL FRACTION >0.63U	
						DDT-O,P (UG/G)	DDT-P,P (UG/G)	DDT-T,P (UG/G)	DDT-O,P (UG/G)	DDT-P,P (UG/G)	DDT-T,P (UG/G)	DDT-O,P (UG/G)	DDT-P,P (UG/G)	DDT-T,P (UG/G)	DDT-O,P (UG/G)	DDT-P,P (UG/G)	DDT-T,P (UG/G)	DDT-O,P (UG/G)	DDT-P,P (UG/G)
H-M-VILLE SPRING BRANCH 5.6 - PATTON ROAD (COMP OF 6-193 THRU 6-199)																			
2	31AUG79	1109	15EP79	1500	COMPOSITE	6-203	12	.	.	.	.	.	.	.	.	.	.		
H-M-VILLE SPRING BRANCH 5.6 - (COMP OF 6-200 THRU 6-202)																			
2	15EP79	1015	15EP79	1105	COMPOSITE	6-204	62	.	.	.	.	.	.	.	.	.	.		
INDIAN CREEK 1.9 - TRIANA																			
1	27AUG79	900	27AUG79	926	COMPOSITE	6-002	86	.	0.940	17.600	9.430	14.400	3.760	7.270	53.600	53.600	53.600		
1	27AUG79	1000	27AUG79	1016	COMPOSITE	6-004	170	.	3.350	18.000	9.030	14.100	4.260	6.930	55.670	55.670	55.670		
1	27AUG79	1100	27AUG79	1120	COMPOSITE	6-006	130	.	0.860	18.500	8.140	13.400	3.950	6.950	51.400	51.400	51.400		
1	27AUG79	1415	27AUG79	1500	COMPOSITE	6-008	250	.	0.960	22.500	9.210	14.300	4.350	7.130	58.650	58.650	58.650		
1	28AUG79	944	28AUG79	959	COMPOSITE	6-010	50	.	0.980	7.890	13.200	20.100	3.570	7.950	53.690	53.690	53.690		
1	28AUG79	1347	28AUG79	1400	COMPOSITE	6-012	28	.	.	.	.	.	.	.	.	.	.		
1	29AUG79	935	29AUG79	950	COMPOSITE	6-014	10	.	.	.	.	.	.	.	.	.	.		
1	29AUG79	1526	29AUG79	1534	COMPOSITE	6-032	46	.	1.340	20.300	13.700	22.700	4.020	8.840	70.950	70.950	70.950		
3	28SEP79	1000	28SEP79	1030	COMPOSITE	6-213	11	.	.	.	.	.	.	.	.	.	.		
3	28SEP79	1600	28SEP79	1630	COMPOSITE	6-215	340	.	0.160	5.040	1.930	3.390	0.950	2.230	13.700	13.700	13.700		
3	29SEP79	1240	29SEP79	1310	COMPOSITE	6-217	51	.	0.200	9.580	2.930	6.220	1.080	3.030	23.040	23.040	23.040		
3	30SEP79	1433	30SEP79	1446	COMPOSITE	6-219	35	.	.	.	.	.	.	.	.	.	.		
3	10CT79	1100	10CT79	1135	COMPOSITE	6-268	29	.	.	.	.	.	.	.	.	.	.		
3	20CT79	1307	20CT79	1321	COMPOSITE	6-270	72	.	0.200	9.030	4.030	9.010	1.660	4.060	27.990	27.990	27.990		
3	30CT79	1450	30CT79	1510	COMPOSITE	6-272	370	.	<	0.080	1.430	2.750	7.490	1.220	2.760	15.650	15.650		
3	30CT79	1253	30CT79	1303	COMPOSITE	6-274	140	.	0.140	2.700	4.410	12.700	1.780	4.210	25.940	25.940	25.940		
3	30CT79	1410	30CT79	1441	COMPOSITE	6-276	100	.	0.290	37.100	3.470	9.320	1.390	3.100	54.670	54.670	54.670		
INDIAN CREEK 1.97 - TRIANA																			
2	2SEP79	1158	2SEP79	1216	COMPOSITE	6-104	98	.	0.600	11.200	7.200	15.100	2.900	6.700	43.700	43.700	43.700		
2	2SEP79	1442	2SEP79	1457	COMPOSITE	6-106	20	.	.	.	.	.	.	.	.	.	.		
2	2SEP79	1841	2SEP79	1954	COMPOSITE	6-108	31	.	.	.	.	.	.	.	.	.	.		
2	3SEP79	946	3SEP79	1015	COMPOSITE	6-110	270	.	0.570	12.800	5.200	11.100	2.610	6.300	38.580	38.580	38.580		
2	3SEP79	1247	3SEP79	1301	COMPOSITE	6-112	310	.	0.490	20.000	6.710	13.600	4.900	7.490	53.190	53.190	53.190		
2	3SEP79	1627	3SEP79	1643	COMPOSITE	6-114	910	.	0.410	12.500	6.100	12.200	2.280	6.000	39.490	39.490	39.490		
2	4SEP79	1115	4SEP79	1132	COMPOSITE	6-116	2	.	.	.	.	.	.	.	.	.	.		
2	4SEP79	1752	4SEP79	1808	COMPOSITE	6-116	86	.	0.200	2.620	2.310	5.290	0.720	1.900	13.040	13.040	13.040		
2	5SEP79	1039	5SEP79	1050	COMPOSITE	6-120	21	.	.	.	.	.	.	.	.	.	.		
4	24NOV79	930	24NOV79	1013	COMPOSITE	6-401	34	.	0.300	10.300	7.890	14.400	2.570	6.350	42.010	42.010	42.010		
4	24NOV79	1450	24NOV79	1529	COMPOSITE	6-403	690	14.4	0.210	2.910	3.360	5.450	1.430	3.700	17.060	17.060	17.060		
4	24NOV79	1300	24NOV79	1330	COMPOSITE	6-405	620	14.1	0.330	12.400	4.720	9.600	1.730	5.800	34.580	34.580	34.580		
4	24NOV79	858	24NOV79	927	COMPOSITE	6-407	2	17.4	.	.	.	.	.	.	.	.	.		
4	28NOV79	812	28NOV79	841	COMPOSITE	6-409	<	44.4	.	.	.	.	.	.	.	.	.		
4	28NOV79	1508	28NOV79	1549	COMPOSITE	6-411	<	1	.	.	.	.	.	.	.	.	.		
4	29NOV79	830	29NOV79	842	COMPOSITE	6-413	<	1	21.0	.	.	.	.	.	.	.	.		
4	29NOV79	1444	29NOV79	1456	COMPOSITE	6-415	<	1	36.7	.	.	.	.	.	.	.	.		
4	30NOV79	1055	30NOV79	1105	COMPOSITE	6-417	2	25.7	.	.	.	.	.	.	.	.	.		
INDIAN CREEK 4.6 - CENTERLINE ROAD																			
1	26AUG79	1132	26AUG79	1207	COMPOSITE	6-016	71	.	1.730	1.43	10.300	64.000	6.110	10.400	235.540	235.540	235.540		
1	26AUG79	2134	26AUG79	2152	COMPOSITE	6-018	4	.	.	.	.	.	.	.	.	.	.		
1	27AUG79	1101	27AUG79	1133	COMPOSITE	6-020	4	.	.	.	.	.	.	.	.	.	.		

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK 6 - ASSESSMENT OF DDT TRANSPORT - HYDROLOGIC AND SEDIMENT DATA

RAIN EVENT	BEGINNING DATE-TIME	ENDING DATE-TIME	HORIZONTAL LOCATION	LABID	SUS-SOL (MG/L)	VOL-SOL (L)	CONCENTRATIONS OF DDT MEASURED IN SEDIMENT-UG/G										TOTAL		DDTR MAXIMUM (UG/G)
							TOTAL FRACTION >0.630										MINIMUM		
							DDT-O,P (UG/G)	DDT-P,P (UG/G)	DDD-O,P (UG/G)	DDD-P,P (UG/G)	DDE-O,P (UG/G)	DDE-P,P (UG/G)	ODE-O,P (UG/G)	ODE-P,P (UG/G)	DDT (UG/G)	DDT (UG/G)			
1	27AUG79	1535	27AUG79	1552	COMPOSITE	6-022	8												
1	28AUG79	1235	28AUG79	1302	COMPOSITE	6-024	54												
1	28AUG79	1705	28AUG79	1730	COMPOSITE	6-026	92												
1	28AUG79	2053	28AUG79	2114	COMPOSITE	6-028	95												
1	29AUG79	1337	29AUG79	1356	COMPOSITE	6-030	37												
2	2SEP79	925	2SEP79	945	COMPOSITE	6-122	670												
2	2SEP79	1532	2SEP79	1549	COMPOSITE	6-124	78												
2	2SEP79	2326	2SEP79	2340	COMPOSITE	6-126	2												
2	3SEP79	1005	3SEP79	1018	COMPOSITE	6-128	22												
2	3SEP79	1345	3SEP79	1359	COMPOSITE	6-130	2												
2	3SEP79	1642	3SEP79	1655	COMPOSITE	6-132	93												
2	4SEP79	1420	4SEP79	1446	COMPOSITE	6-134	2												
2	4SEP79	1640	4SEP79	1657	COMPOSITE	6-136	40												
2	5SEP79	1355	5SEP79	1415	COMPOSITE	6-138	33												
2	5SEP79	1500	5SEP79			6-207													
3	27SEP79	2150	27SEP79	2212	COMPOSITE	6-223	49												
3	28SEP79	945	28SEP79	1004	COMPOSITE	6-225	240												
3	30SEP79	1320	30SEP79	1340	COMPOSITE	6-227	48												
3	1OCT79	1140	1OCT79	1300	COMPOSITE	6-229	57												
3	2OCT79	1122	2OCT79	1145	COMPOSITE	6-278	99												
3	3OCT79	1325	3OCT79	1350	COMPOSITE	6-280	160												
3	4OCT79	1130	4OCT79	1140	COMPOSITE	6-282	36												
3	5OCT79	1130	5OCT79	1201	COMPOSITE	6-284	71												
4	24NOV79	358	24NOV79	409	COMPOSITE	6-419	61												
4	24NOV79	1103	24NOV79	1112	COMPOSITE	6-421	8												
4	26NOV79	1105	26NOV79	1116	COMPOSITE	6-423	130												
4	27NOV79	1134	27NOV79	1146	COMPOSITE	6-425	1												
4	28NOV79	912	28NOV79	928	COMPOSITE	6-427	240												
4	28NOV79	1550	28NOV79	1612	COMPOSITE	6-429	66												
4	29NOV79	900	29NOV79	926	COMPOSITE	6-431	350												
4	29NOV79	1330	29NOV79	1345	COMPOSITE	6-433	3870												
4	30NOV79	1355	30NOV79	1404	COMPOSITE	6-435	19												

FOOTNOTES:

A. MINIMUM TOTAL DDTR CALCULATED BY SETTING ALL LESS THAN VALUES TO ZERO.

B. MAXIMUM TOTAL DDTR CALCULATED BY SETTING ALL LESS THAN VALUES TO THEIR ABSOLUTE VALUE.

TASK6 - ASSESSMENT OF DDT TRANSPORT - HYDROLOGIC AND SEDIMENT DATA

RAIN EVENT	BEGINNING DATE-TIME	ENDING DATE-TIME	HLOC	LAPID	SOLIDS			CONCENTRATIONS OF DOT IN WATER (UG/L)										TOTAL DOT	
					SUS (MG/L)	VOL (%)	<63U (MG/L)	D,P	P,P	D,P	P,P	D,P	P,P	D,P	P,P	MIN	MAX		
H-VILLE SPRING BRANCH 2.4 - WDC ROAD																			
5	18JAN80	1122	18JAN80	1207	1-4C	6M-13	6.5	9.6	130.0	26.0	6.0	0.65	3.84	2.09	4.55	0.60	1.58	13.32	13.32
5	18JAN80	1558	19JAN80	1637	1-4C	6M-14	6.4	66.0	91.0	23.0	3.0	0.28	3.53	1.50	3.52	0.42	1.15	10.39	10.39
5	19JAN80	2100	18JAN80	2143	1-4C	6M-03	4.1	87.0	80.0	22.0	4.0	0.17	2.50	0.96	2.49	0.29	0.77	7.18	7.18
5	18JAN80	2325	19JAN80	15	1-4C	6M-15	5.1	35.0	68.0	19.0	4.0	0.22	1.79	0.74	1.78	0.22	0.61	5.37	5.37
5	19JAN80	125	19JAN80	205	1-4C	6M-16	4.9	80.0	68.0	19.0	4.0	0.14	2.44	0.85	1.89	0.26	0.69	6.26	6.26
5	19JAN80	1452	19JAN80	1535	1-4C	6M-17	4.4	53.0	50.0	18.0	1.0	0.14	2.42	0.54	1.49	0.19	0.47	5.26	5.26
6	22JAN80	2050	22JAN80	2117	1-4C	6M-56	3.0	25.0	49.0	13.0	3.0	0.19	1.83	0.67	1.09	0.22	0.45	4.45	4.45
6	22JAN80	2050	22JAN80	2112	0.6C	6M-57	2.0	28.0	51.0	11.0	2.0	0.16	3.64	0.63	1.31	0.21	0.51	6.46	6.46
6	22JAN80	2345	23JAN80	38	1-4C	6M-58	13	7.5	52.0	12.0	4.0	0.10	0.91	0.49	0.85	0.17	0.36	2.88	2.88
6	23JAN80	7345	23JAN80	38	0.6C	6M-59	3.0	24.0	57.0	11.0	4.0	0.10	0.91	0.49	0.85	0.17	0.36	2.88	2.88
6	23JAN80	340	23JAN80	445	1-4C	6M-60	3.0	25.0	54.0	11.0	9.0	0.10	0.91	0.49	0.85	0.17	0.36	2.88	2.88
6	23JAN80	340	23JAN80	445	0.6C	6M-61	3.0	27.0	52.0	11.0	8.0	0.10	0.91	0.49	0.85	0.17	0.36	2.88	2.88
6	23JAN80	640	23JAN80	730	1-4C	6M-62	2.0	23.0	49.0	10.0	13.0	0.07	0.90	0.44	1.16	0.15	0.34	3.06	3.06
5	23JAN80	640	23JAN80	730	0.6C	6M-63	2.0	25.0	48.0	10.0	8.0	0.04	0.80	0.28	0.51	0.09	0.20	1.92	1.92
6	23JAN80	1030	23JAN80	1130	1-4C	6M-64	3.0	19.0	44.0	11.0	7.0	0.04	0.80	0.28	0.51	0.09	0.20	1.92	1.92
6	23JAN80	1030	23JAN80	1130	0.6C	6M-65	3.0	24.0	40.0	8.0	7.0	0.02	0.41	0.17	0.28	0.05	0.13	1.06	1.06
6	24JAN80	955	24JAN80	1025	1-4C	6M-66	41.0	21.0	23.0	14.0	2.0	0.02	0.41	0.17	0.28	0.05	0.13	1.06	1.06
6	24JAN80	955	24JAN80	1025	0.6C	6M-67	41.0	65.0	24.0	7.0	4.0	0.02	0.41	0.17	0.28	0.05	0.13	1.06	1.06
6	24JAN80	1345	24JAN80	1404	1-4C	6M-68	41.0	34.0	22.0	8.0	1.0	0.02	0.41	0.17	0.28	0.05	0.13	1.06	1.06
6	24JAN80	1345	24JAN80	1404	0.6C	6M-69	41.0	69.0	20.0	7.0	2.0	0.04	0.27	0.23	0.42	0.07	0.18	1.22	1.22
6	25JAN80	910	25JAN80	931	1-4C	6M-70	2.0	9.8	23.0	7.0	2.0	0.04	0.27	0.23	0.42	0.07	0.18	1.22	1.22
6	25JAN80	910	25JAN80	931	0.6C	6M-71	41.0	26.0	20.0	5.0	1.0	0.03	0.26	0.21	0.36	0.07	0.16	1.10	1.10
6	25JAN80	1418	25JAN80	1435	1-4C	6M-72	41.0	13.0	20.0	7.0	1.0	0.03	0.26	0.21	0.36	0.07	0.16	1.10	1.10
6	25JAN80	1418	25JAN80	1435	0.6C	6M-73	41.0	38.0	20.0	6.0	2.0	0.03	0.26	0.21	0.36	0.07	0.16	1.10	1.10
7	17MAR80	1300	17MAR80	1505	1-4C	6M-34	8.0	35.0	79.0	16.0	11.0	0.05	2.18	0.74	2.29	0.26	0.65	6.12	6.17
7	17MAR80	1300	17MAR80	1505	0.6C	6M-35	6.0	30.0	74.0	16.0	13.0	0.05	2.18	0.74	2.29	0.26	0.65	6.12	6.17
7	17MAR80	1545	17MAR80	1608	1-4C	6M-36	6.0	54.0	74.0	16.0	13.0	0.05	2.18	0.74	2.29	0.26	0.65	6.12	6.17
7	17MAR80	1545	17MAR80	1608	0.6C	6M-37	5.0	51.0	76.0	16.0	13.0	0.05	2.18	0.74	2.29	0.26	0.65	6.12	6.17
7	17MAR80	1731	17MAR80	1805	1-4C	6M-38	5.0	47.0	84.0	18.0	16.0	0.05	2.18	0.74	2.29	0.26	0.65	6.12	6.17
7	17MAR80	1731	17MAR80	1805	0.6C	6M-39	3.0	24.0	84.0	18.0	16.0	0.05	2.18	0.74	2.29	0.26	0.65	6.12	6.17
7	17MAR80	2040	17MAR80	2100	1-4C	6M-40	6.0	33.0	85.0	16.0	28.0	0.05	2.18	0.74	2.29	0.26	0.65	6.12	6.17
7	17MAR80	2040	17MAR80	2100	0.6C	6M-41	5.0	69.0	80.0	16.0	28.0	0.05	2.18	0.74	2.29	0.26	0.65	6.12	6.17
7	17MAR80	2340	17MAR80	2400	1-4C	6M-42	2.0	24.0	80.0	16.0	24.0	0.05	2.18	0.74	2.29	0.26	0.65	6.12	6.17
7	17MAR80	2340	17MAR80	2400	0.6C	6M-43	2.0	22.0	86.0	16.0	24.0	0.05	2.18	0.74	2.29	0.26	0.65	6.12	6.17
7	18MAR80	120	18MAR80	210	1-4C	6M-44	2.0	26.0	84.0	16.0	17.0	0.05	2.18	0.74	2.29	0.26	0.65	6.12	6.17
7	18MAR80	120	18MAR80	210	0.6C	6M-45	13	87.0	71.0	15.0	19.0	0.05	2.18	0.74	2.29	0.26	0.65	6.12	6.17
7	18MAR80	400	18MAR80	435	1-4C	6M-46	3.0	30.0	82.0	15.0	19.0	0.05	2.18	0.74	2.29	0.26	0.65	6.12	6.17
7	18MAR80	400	18MAR80	435	0.6C	6M-47	1.0	26.0	80.0	15.0	19.0	0.05	2.18	0.74	2.29	0.26	0.65	6.12	6.17
7	18MAR80	600	18MAR80	632	1-4C	6M-48	8.0	81.0	72.0	15.0	20.0	0.05	2.18	0.74	2.29	0.26	0.65	6.12	6.17
7	18MAR80	600	18MAR80	632	0.6C	6M-49	1.0	26.0	80.0	15.0	19.0	0.05	2.18	0.74	2.29	0.26	0.65	6.12	6.17
7	18MAR80	740	18MAR80	810	1-4C	6M-50	12	21.0	64.0	15.0	21.0	0.05	2.18	0.74	2.29	0.26	0.65	6.12	6.17
7	18MAR80	740	18MAR80	810	0.6C	6M-51	22	25.0	64.0	15.0	21.0	0.05	2.18	0.74	2.29	0.26	0.65	6.12	6.17
7	18MAR80	1000	18MAR80	1030	1-4C	6M-52	3.0	42.0	63.0	13.0	29.0	0.06	0.62	0.20	0.68	0.06	0.21	1.77	1.83
7	18MAR80	1000	18MAR80	1030	0.6C	6M-53	3.0	23.0	60.0	13.0	29.0	0.06	0.62	0.20	0.68	0.06	0.21	1.77	1.83
7	18MAR80	1120	18MAR80	1145	1-4C	6M-54	7.0	14.0	61.0	16.0	27.0	0.05	0.22	0.18	0.31	0.05	0.20	0.97	1.01
7	18MAR80	1120	18MAR80	1145	0.6C	6M-55	3.0	56.0	52.0	16.0	27.0	0.05	0.22	0.18	0.31	0.05	0.20	0.97	1.01
7	18MAR80	125	18MAR80	1326	1-4C	6M-56	2.0	66.0	56.0	12.0	18.0	0.06	0.42	0.14	0.32	0.03	0.16	1.08	1.14

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK 6 - ASSESSMENT OF DDT TRANSPORT - HYDROLOGIC AND SEDIMENT DATA

RAINFALL BEGINNING		ENDING		DATE-TIME		MLOC LABID		VOL		SUS		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)		CONCENTRATIONS OF DDT IN WATER (UG/L)			
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TASK6 - ASSESSMENT OF OUY TRANSPORT - HYDROLOGIC AND SEDIMENT DATA

RAIN EVENT	BEGINNING DATE-TIME	ENDING DATE-TIME	MLOC	L310	SOLIDS			CONCENTRATIONS OF DUT IN WATER (UG/L)---										TOTAL DDIR	
					>63U		<63U	-DDT-		-SUSPENDED FRACTION-		-DDE-		MIN	MAX				
					SUS	VOL (MG/L)	SUS	VOL (MG/L)	O,P	P,P	O,P	P,P	O,P			P,P			
7 17MAR80 1330	17MAR80 1440	0.6C	67-65	10	21.0	110.0	.	.	.	.	.	.	.	.	.	.	.		
7 17MAR80 1445	17MAR80 1540	0.6C	67-66	16	41.0	42.0	18.0	14.0	< 0.03	< 0.04	< 0.03	< 0.02	< 0.02	< 0.02	0.00	0.15			
7 17MAR80 1445	17MAR80 1540	0.6C	67-67	7.0	32.0	98.0	.	.	.	.	.	.	.	.	0.00	0.26			
7 17MAR80 1715	17MAR80 1805	1-4C	67-68	10	15.0	89.0	15.0	29.0	< 0.06	< 0.08	< 0.04	< 0.03	< 0.03	< 0.03	0.00	0.26			
7 17MAR80 1715	17MAR80 1805	0.6C	67-69	13	28.0	72.0	73.0	16.0	.	.	.	.	.	.	0.00	0.19			
7 17MAR80 2140	17MAR80 2152	1-4C	67-70	4.0	23.0	73.0	16.0	18.0	< 0.04	< 0.06	< 0.03	< 0.02	< 0.02	< 0.02	0.00	0.19			
7 17MAR80 2140	17MAR80 2152	0.6C	67-71	5.0	12.0	70.0	.	.	.	.	.	.	.	.	0.00	0.13			
7 18MAR80 1235	18MAR80 1315	1-4C	67-72	3.0	27.0	50.0	10.0	14.0	< 0.03	< 0.04	< 0.02	< 0.01	< 0.01	< 0.02	0.00	0.13			
7 18MAR80 1235	18MAR80 1315	0.6C	67-73	3.0	29.0	47.0	.	.	.	.	.	.	.	.	0.00	0.25			
7 18MAR80 1720	18MAR80 1800	1-4C	67-74	3.0	53.0	48.0	11.0	8.0	< 0.06	< 0.07	< 0.04	< 0.03	< 0.02	< 0.03	0.00	0.25			
7 18MAR80 1720	18MAR80 1800	0.6C	67-75	<1.0	.	39.0	.	.	.	.	.	.	.	.	0.00	0.18			
7 19MAR80 918	19MAR80 1012	1-4C	67-76	4.0	26.0	32.0	10.0	2.0	< 0.04	< 0.05	< 0.03	< 0.02	< 0.01	< 0.02	0.00	0.18			
7 19MAR80 918	19MAR80 1012	0.6C	67-77	<1.0	.	29.0	.	.	.	.	.	.	.	.	0.00	0.12			
7 19MAR80 1715	19MAR80 1745	1-4C	67-78	1.0	51.0	23.0	10.0	1.0	< 0.03	< 0.03	< 0.02	< 0.01	< 0.01	< 0.02	0.00	0.12			
7 19MAR80 1715	19MAR80 1745	0.6C	67-79	2.0	32.0	30.0	.	.	.	.	.	.	.	.	0.00	0.12			
7 20MAR80 1141	20MAR80 1230	1-4C	67-110	7.0	18.0	220.0	31.0	35.0	.	.	.	.	.	.	0.00	1.34			
7 20MAR80 1141	20MAR80 1230	0.6C	67-111	5.0	16.0	210.0	.	.	.	.	.	.	.	.	0.00	1.34			
7 20MAR80 1705	20MAR80 1720	1-4C	67-112	16	73.0	160.0	21.0	42.0	< 0.30	< 0.37	< 0.21	< 0.17	< 0.12	< 0.17	0.00	1.34			
7 20MAR80 1705	20MAR80 1720	0.6C	67-113	19	19.0	160.0	.	.	.	.	.	.	.	.	0.00	0.22			
7 21MAR80 945	21MAR80 1015	1-4C	67-114	<1.0	.	110.0	15.0	64.0	< 0.05	< 0.06	< 0.04	< 0.02	< 0.02	< 0.02	0.00	0.22			
7 21MAR80 945	21MAR80 1015	0.6C	67-115	1.0	41.0	120.0	.	.	.	.	.	.	.	.	0.00	0.22			
7 22MAR80 1050	22MAR80 1102	1-4C	67-140	3.0	14.0	41.0	15.0	22.0	.	.	.	.	.	.	0.00	0.11			
7 22MAR80 1050	22MAR80 1102	0.6C	67-141	2.0	7.0	48.0	.	.	.	.	.	.	.	.	0.00	0.11			
7 23MAR80 1445	23MAR80 1500	1-4C	67-142	<1.0	.	29.0	15.0	14.0	< 0.03	< 0.03	< 0.02	< 0.01	< 0.01	< 0.01	0.00	0.11			
7 23MAR80 1445	23MAR80 1500	0.6C	67-143	<1.0	.	28.0	.	.	.	.	.	.	.	.	0.00	0.11			
7 23MAR80 1405	23MAR80 1418	1-4C	67-158	14	7.0	26.0	9.0	10.0	< 0.04	< 0.05	< 0.03	< 0.02	< 0.02	< 0.02	0.00	0.18			
7 23MAR80 1405	23MAR80 1418	0.6C	67-159	18	13.0	29.0	.	.	.	.	.	.	.	.	0.00	0.18			
7 23MAR80 1324	23MAR80 1339	1-4C	67-144	4.0	7.0	100.0	21.0	36.0	< 0.33	< 0.40	< 0.22	< 0.17	< 0.13	< 0.18	0.00	1.41			
7 23MAR80 1324	23MAR80 1339	0.6C	67-145	3.0	21.0	83.0	.	.	.	.	.	.	.	.	0.00	1.41			
7 31MAR80 1458	31MAR80 1515	1-4C	67-174	2.0	26.0	20.0	8.0	3.0	< 0.07	< 0.08	< 0.05	< 0.03	< 0.03	< 0.03	0.00	0.29			
7 31MAR80 1458	31MAR80 1515	0.6C	67-175	2.0	15.0	18.0	.	.	.	.	.	.	.	.	0.00	0.29			
7 3APR80 1258	3APR80 1330	1-4C	67-172	5.0	34.0	23.0	8.0	12.0	< 0.06	< 0.07	< 0.05	< 0.03	< 0.03	< 0.03	0.00	0.28			
7 3APR80 1258	3APR80 1330	0.6C	67-173	11	22.0	30.0	.	.	.	.	.	.	.	.	0.00	0.28			

INDIAN CREEK . - MARTIN ROAD

INDIAN CREEK. - TRIANA

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK 6 - ASSESSMENT OF DDT TRANSPORT - HYDROLOGIC AND SEDIMENT DATA

RAIN BEGINNING		ENDING		SOLIDS		CONCENTRATIONS OF DDT IN WATER (UG/L)												TOTAL DDT		
EVENT	DATE-TIME	DATE-TIME	MLOC	LABID	SUS (MG/L)	VOL (L)	SUS (MG/L)	VOL (MG/L)	O,P	P,P	O,P	O,P	O,P	O,P	O,P	O,P	P,P	P,P	MIN	MAX
6	23JAN80	140	23JAN80	230	0.6C	6M-25	23.0	9.0	3.0	0.02	0.16	0.20	0.26	0.07	0.14	0.07	0.14	0.86	0.86	
6	23JAN80	532	23JAN80	642	1.4C	6M-26	2.0	92.0	9.0	3.0	0.03	0.13	0.26	0.36	0.09	0.19	0.09	0.19	1.06	1.06
6	23JAN80	532	23JAN80	642	0.6C	6M-27	1.0	75.0	35.0	10.0	2.0	0.01	0.04	0.15	0.17	0.05	0.10	0.05	0.10	0.52
6	23JAN80	1115	23JAN80	1200	1.4C	6M-28	1.0	21.0	44.0	10.0	3.0	0.01	0.04	0.15	0.17	0.05	0.10	0.05	0.10	0.52
6	23JAN80	1115	23JAN80	1200	0.6C	6M-29	1.0	56.0	41.0	9.0	4.0	0.01	0.04	0.15	0.17	0.05	0.10	0.05	0.10	0.52
6	24JAN80	1210	24JAN80	1235	1.4C	6M-30	1.0	10.0	32.0	8.0	7.0	0.01	0.04	0.15	0.17	0.05	0.10	0.05	0.10	0.52
6	24JAN80	1210	24JAN80	1235	0.6C	6M-31	1.0	69.0	33.0	9.0	5.0	0.01	0.04	0.15	0.17	0.05	0.10	0.05	0.10	0.52
6	24JAN80	1620	24JAN80	1644	1.4C	6M-32	1.0	31.0	33.0	6.0	5.0	0.01	0.04	0.15	0.17	0.05	0.10	0.05	0.10	0.52
6	24JAN80	1620	24JAN80	1644	0.6C	6M-33	1.0	53.0	32.0	8.0	4.0	0.01	0.04	0.15	0.17	0.05	0.10	0.05	0.10	0.52
6	25JAN80	1040	25JAN80	1110	1.4C	6M-34	1.0	24.0	30.0	7.0	5.0	0.01	0.04	0.15	0.17	0.05	0.10	0.05	0.10	0.52
6	25JAN80	1040	25JAN80	1110	0.6C	6M-35	1.0	84.0	24.0	8.0	4.0	0.01	0.04	0.15	0.17	0.05	0.10	0.05	0.10	0.52
6	25JAN80	1540	25JAN80	1611	1.4C	6M-36	1.0	44.0	25.0	8.0	3.0	0.01	0.04	0.15	0.17	0.05	0.10	0.05	0.10	0.52
6	25JAN80	1540	25JAN80	1611	0.6C	6M-37	1.0	71.0	26.0	8.0	3.0	0.01	0.04	0.15	0.17	0.05	0.10	0.05	0.10	0.52
7	17MAR80	1215	17MAR80	1315	1.4C	67-01	2.0	24.0	79.0	14.0	6.0	0.09	0.67	0.38	0.75	0.12	0.37	0.12	0.37	2.38
7	17MAR80	1215	17MAR80	1315	0.6C	67-02	1.0	53.0	75.0	15.0	15.0	0.09	0.67	0.38	0.75	0.12	0.37	0.12	0.37	2.38
7	17MAR80	1800	17MAR80	1815	1.4C	67-03	1.0	28.0	100.0	18.0	15.0	0.09	0.67	0.38	0.75	0.12	0.37	0.12	0.37	2.38
7	17MAR80	1800	17MAR80	1815	0.6C	67-04	1.0	53.0	95.0	18.0	15.0	0.09	0.67	0.38	0.75	0.12	0.37	0.12	0.37	2.38
7	17MAR80	5	18MAR80	40	1.4C	67-05	5.0	23.0	160.0	23.0	22.0	0.10	2.73	0.90	2.40	0.35	0.94	0.35	0.94	7.41
7	17MAR80	5	18MAR80	40	0.6C	67-06	9.0	23.0	170.0	23.0	22.0	0.10	2.73	0.90	2.40	0.35	0.94	0.35	0.94	7.41
7	17MAR80	723	18MAR80	750	1.4C	67-07	2.0	31.0	120.0	18.0	35.0	0.08	2.35	0.56	1.55	0.21	0.59	0.21	0.59	5.35
7	17MAR80	723	18MAR80	750	0.6C	67-08	3.0	65.0	110.0	18.0	35.0	0.08	2.35	0.56	1.55	0.21	0.59	0.21	0.59	5.35
7	17MAR80	1240	18MAR80	1320	1.4C	67-09	1.0	87.0	87.0	16.0	25.0	0.09	1.24	0.27	0.74	0.09	0.33	0.09	0.33	2.77
7	17MAR80	1240	18MAR80	1320	0.6C	67-10	1.0	87.0	87.0	16.0	25.0	0.09	1.24	0.27	0.74	0.09	0.33	0.09	0.33	2.77
7	17MAR80	1800	18MAR80	1815	1.4C	67-11	1.0	64.0	14.0	28.0	28.0	0.09	0.55	0.17	0.31	0.05	0.19	0.05	0.19	1.37
7	17MAR80	1800	18MAR80	1815	0.6C	67-12	1.0	64.0	14.0	28.0	28.0	0.09	0.55	0.17	0.31	0.05	0.19	0.05	0.19	1.37
7	17MAR80	1800	18MAR80	1815	1.4C	67-13	1.0	55.0	12.0	22.0	22.0	0.09	0.12	0.12	0.21	0.04	0.12	0.04	0.12	0.70
7	17MAR80	1800	18MAR80	1815	0.6C	67-14	1.0	55.0	12.0	22.0	22.0	0.09	0.12	0.12	0.21	0.04	0.12	0.04	0.12	0.70
7	17MAR80	640	19MAR80	658	1.4C	67-15	1.0	52.0	14.0	19.0	19.0	0.05	0.10	0.12	0.22	0.03	0.10	0.03	0.10	0.62
7	17MAR80	640	19MAR80	658	0.6C	67-16	1.0	52.0	14.0	19.0	19.0	0.05	0.10	0.12	0.22	0.03	0.10	0.03	0.10	0.62
7	17MAR80	1300	19MAR80	1330	1.4C	67-80	1.0	44.0	11.0	16.0	16.0	0.12	0.66	0.30	0.59	0.08	0.32	0.08	0.32	2.06
7	17MAR80	1300	19MAR80	1330	0.6C	67-81	1.0	44.0	11.0	16.0	16.0	0.12	0.66	0.30	0.59	0.08	0.32	0.08	0.32	2.06
7	17MAR80	1800	19MAR80	1820	1.4C	67-82	2.0	47.0	47.0	10.0	14.0	0.13	0.06	0.16	0.02	0.03	0.03	0.03	0.03	0.43
7	17MAR80	1800	19MAR80	1820	0.6C	67-83	2.0	47.0	47.0	10.0	14.0	0.13	0.06	0.16	0.02	0.03	0.03	0.03	0.03	0.43
7	17MAR80	125	20MAR80	145	1.4C	67-84	18	4.0	40.0	10.0	11.0	0.13	0.06	0.16	0.02	0.03	0.03	0.03	0.03	0.43
7	17MAR80	125	20MAR80	145	0.6C	67-85	18	4.0	40.0	10.0	11.0	0.13	0.06	0.16	0.02	0.03	0.03	0.03	0.03	0.43
7	17MAR80	633	20MAR80	641	1.4C	67-86	17	1.0	40.0	17.0	6.0	0.13	0.06	0.16	0.02	0.03	0.03	0.03	0.03	0.43
7	17MAR80	633	20MAR80	641	0.6C	67-87	17	1.0	40.0	17.0	6.0	0.13	0.06	0.16	0.02	0.03	0.03	0.03	0.03	0.43
7	17MAR80	1250	20MAR80	1315	1.4C	67-116	18	2.0	37.0	10.0	9.0	0.01	0.04	0.03	0.05	0.01	0.04	0.01	0.04	0.18
7	17MAR80	1250	20MAR80	1315	0.6C	67-117	18	2.0	37.0	10.0	9.0	0.01	0.04	0.03	0.05	0.01	0.04	0.01	0.04	0.18
7	17MAR80	1710	20MAR80	1720	1.4C	67-118	1.0	68.0	29.0	10.0	5.0	0.04	0.08	0.06	0.12	0.02	0.06	0.02	0.06	0.36
7	17MAR80	1710	20MAR80	1720	0.6C	67-119	1.0	68.0	29.0	10.0	5.0	0.04	0.08	0.06	0.12	0.02	0.06	0.02	0.06	0.36
7	17MAR80	1101	22MAR80	1154	1.4C	67-120	1.0	58.0	11.0	27.0	27.0	0.14	0.16	0.11	0.15	0.06	0.09	0.06	0.09	0.71
7	17MAR80	1101	22MAR80	1154	0.6C	67-121	1.0	58.0	11.0	27.0	27.0	0.14	0.16	0.11	0.15	0.06	0.09	0.06	0.09	0.71
7	17MAR80	949	23MAR80	1021	1.4C	67-122	2.0	11.0	58.0	13.0	15.0	0.13	0.21	0.10	0.23	0.05	0.15	0.05	0.15	0.86
7	17MAR80	949	23MAR80	1021	0.6C	67-123	2.0	11.0	58.0	13.0	15.0	0.13	0.21	0.10	0.23	0.05	0.15	0.05	0.15	0.86
7	17MAR80	1120	24MAR80	1155	1.4C	67-124	1.0	57.0	12.0	37.0	37.0	0.05	0.09	0.03	0.05	0.02	0.04	0.02	0.04	0.28
7	17MAR80	1120	24MAR80	1155	0.6C	67-125	1.0	57.0	12.0	37.0	37.0	0.05	0.09	0.03	0.05	0.02	0.04	0.02	0.04	0.28
7	17MAR80	1045	26MAR80	1122	1.4C	67-146	1.0	38.0	17.0	33.0	33.0	0.07	0.13	0.06	0.14	0.03	0.09	0.03	0.09	0.51
7	17MAR80	1045	26MAR80	1122	0.6C	67-147	1.0	38.0	17.0	33.0	33.0	0.07	0.13	0.06	0.14	0.03	0.09	0.03	0.09	0.51
7	17MAR80	1000	28MAR80	1034	1.4C	67-148	1.0	25.0	16.0	5.0	5.0	0.01	0.02	0.01	0.01	0.00	0.01	0.00	0.01	0.07
7	17MAR80	1000	28MAR80	1034	0.6C	67-149	1.0	25.0	16.0	5.0	5.0	0.01	0.02	0.01	0.01	0.00	0.01	0.00	0.01	0.07

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK 6 - ASSESSMENT OF DDT TRANSPORT - HYDROLOGIC AND SEDIMENT DATA

RAIN EVENT	BEGINNING DATE-TIME	ENDING DATE-TIME	MLQC LABID	KUALU	SOLIDS			CONCENTRATIONS OF DDT IN WATER (UG/L)										TOTAL	
					SUS VOL			DDT		DDE		DDF		P,P		P,P		MIN	MAX
					>63U	<63U	0.45U	O,P	P,P	O,P	P,P	O,P	P,P	O,P	P,P	O,P	P,P		
					SUS	VOL	(MG/L)	(%)											
INDIAN CREEK 4-6 - CENTERLINE KUALU																			
5	16JAN80	1428	18JAN80	1520	1-4C	6M-09	3-0	65-0	110-0	24-0	5-0	0-11	1-18	0-91	1-59	0-26	0-72	4-77	4-77
5	18JAN80	2045	18JAN80	2146	1-4C	6M-02	3-7	77-0	84-0	22-0	6-0	0-20	2-74	1-20	2-95	0-32	0-93	8-33	8-33
5	18JAN80	2245	18JAN80	2336	1-4C	6M-11	2-1	85-0	100-0	24-0	4-0	0-13	3-16	1-17	2-64	0-34	0-94	8-34	8-34
5	19JAN80	1322	19JAN80	235	1-4C	6M-11	4-2	35-0	95-0	23-0	9-0	0-15	3-00	1-21	2-83	0-43	1-06	8-68	8-68
5	19JAN80	1555	19JAN80	1642	1-4C	6M-12	0-8	9-4	44-0	16-0	2-0	< 0-09	0-36	0-36	0-63	0-11	0-29	1-76	1-85
6	22JAN80	1910	22JAN80	2015	1-4C	6M-38	<1-0	65-0	25-0	8-0	3-0	< 0-01	0-37	0-27	0-36	0-09	0-19	1-27	1-29
6	22JAN80	1910	22JAN80	2015	1-4C	6M-39	4-0	24-0	29-0	8-0	1-0								
6	22JAN80	2350	23JAN80	30	1-4C	6M-40	<1-0	69-0	35-0	7-0	2-0	0-04	0-65	0-30	0-46	0-10	0-22	1-77	1-77
6	22JAN80	2350	23JAN80	30	0-6C	6M-41	9-0	10-0	42-0	9-0	3-0								
6	23JAN80	400	23JAN80	430	1-4C	6M-42	<1-0	37-0	44-0	10-0	4-0	0-06	0-64	0-43	0-63	0-14	0-32	2-21	2-21
6	23JAN80	400	23JAN80	430	0-6C	6M-43	<1-0	78-0	49-0	8-0	5-0								
6	23JAN80	710	23JAN80	730	1-4C	6M-44	<1-0	44-0	48-0	10-0	4-0	0-06	1-01	0-45	0-66	0-16	0-35	2-68	2-68
6	23JAN80	710	23JAN80	730	0-6C	6M-45	<1-0	92-0	48-0	9-0	4-0								
6	23JAN80	1050	23JAN80	1110	1-4C	6M-46	<1-0	44-0	63-0	8-0	5-0	0-06	0-89	0-44	0-65	0-15	0-32	2-52	2-52
6	23JAN80	1050	23JAN80	1110	0-6C	6M-47	<1-0	67-0	51-0	8-0	6-0								
6	24JAN80	1110	24JAN80	1138	1-4C	6M-48	<1-0	86-0	26-0	6-0	4-0	< 0-01	0-07	0-16	0-19	0-05	0-11	0-59	0-60
6	24JAN80	1110	24JAN80	1138	0-6C	6M-49	<1-0	86-0	32-0	8-0	4-0								
6	24JAN80	1446	24JAN80	1501	1-4C	6M-50	<1-0	46-0	31-0	8-0	2-0	< 0-02	0-09	0-14	0-16	0-05	0-09	0-53	0-54
6	24JAN80	1446	24JAN80	1501	0-6C	6M-51	20	9-1	80-0	9-0	4-0								
6	25JAN80	1034	25JAN80	1048	1-4C	6M-52	<1-0	36-0	51-0	6-0	2-0	< 0-02	0-15	0-12	0-14	0-04	0-08	0-52	0-54
6	25JAN80	1034	25JAN80	1048	0-6C	6M-53	<1-0	51-0	82-0	6-0	3-0								
6	25JAN80	1541	25JAN80	1602	1-4C	6M-54	<1-0	82-0	18-0	5-0	< 1-0	< 0-01	0-16	0-12	0-14	0-04	0-08	0-54	0-55
6	25JAN80	1541	25JAN80	1602	0-6C	6M-55	<1-0	18-0	47-0	7-0	3-0								
6	17MAR80	1400	17MAR80	1504	1-4C	67-20	7-0	20-0	110-0	18-0	11-0	< 0-05	2-25	0-64	1-89	0-25	0-65	5-69	5-74
7	17MAR80	1400	17MAR80	1504	0-6C	67-21	8-0	18-0	110-0										
7	17MAR80	1730	17MAR80	1753	1-4C	67-22	10	22-0	130-0	20-0	17-0	< 0-05	0-66	0-33	0-78	0-11	0-34	2-22	2-27
7	17MAR80	1730	17MAR80	1753	0-6C	67-23	11	20-0	170-0										
7	18MAR80	155	18MAR80	318	1-4C	67-24	5-0	17-0	100-0	17-0	33-0	< 0-05	1-14	0-35	1-11	0-13	0-40	3-14	3-19
7	18MAR80	155	18MAR80	318	0-6C	67-25	3-0	24-0	100-0										
7	18MAR80	715	18MAR80	734	1-4C	67-26	10	19-0	120-0	11-0	26-0	< 0-06	4-38	1-14	3-13	0-45	1-36	10-46	10-52
7	18MAR80	1108	18MAR80	1132	0-6C	67-27	3-0	30-0	87-0										
7	18MAR80	1108	18MAR80	1132	1-4C	67-28	<1-0		68-0	15-0	22-0	< 0-05	1-04	0-21	0-49	0-06	0-21	2-01	2-07
7	18MAR80	1108	18MAR80	1132	0-6C	67-29	<1-0		56-0										
7	18MAR80	1723	18MAR80	1740	1-4C	67-30	<1-0		53-0	14-0	24-0	< 0-06	0-32	0-14	0-30	0-03	0-12	0-91	0-97
7	18MAR80	1723	18MAR80	1740	0-6C	67-31	<1-0		50-0										
7	19MAR80	55	19MAR80	121	1-4C	67-32	<1-0		49-0	12-0	15-0	0-07	0-36	0-13	0-27	0-04	0-15	1-02	1-02
7	19MAR80	55	19MAR80	121	0-6C	67-33	<1-0		46-0										
7	19MAR80	645	19MAR80	722	1-4C	67-88	22	< 1-0	40-0	18-0	15-0	< 0-06	0-15	0-14	0-23	0-03	0-15	0-70	0-76
7	19MAR80	645	19MAR80	722	0-6C	67-89	84	< 1-0	39-0										
7	19MAR80	1305	19MAR80	1335	1-4C	67-90	21	1-0	41-0	16-0	11-0	< 0-04	0-11	0-10	0-17	0-03	0-09	0-51	0-55
7	19MAR80	1305	19MAR80	1335	0-6C	67-91	88	4-0	40-0										
7	19MAR80	1333	19MAR80	1400	1-4C	67-92	21	1-0	37-0	17-0	10-0								

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK 6 - ASSESSMENT OF DDT TRANSPORT - HYDROLOGIC AND SEDIMENT DATA

RAIN EVENT	BEGINNING DATE-TIME	ENDING DATE-TIME	MLOC LABID	SOLIDS		CONCENTRATIONS OF DOT IN WATER (UG/L)---						TOTAL DOT				
				>63U		--SUSPENDED FRACTION--						MIN	MAX			
				SUS (MG/L)	VOL (%)	O,P	P,P	DDD	DDE	DDT	DDE					
7	19MAR80 1833	19MAR80 1900	0.6C 67-93	86	< 1.0	38.0	.	.	.	.	.	.	.	.	.	.
7	20MAR80 140	20MAR80 205	1-4C 67-94	19	3.0	30.0	15.0	.	.	.	.	.	.	.	.	.
7	20MAR80 140	20MAR80 209	0.6C 67-95	120	3.0	32.0	.	.	.	.	.	.	.	.	.	.
7	20MAR80 630	20MAR80 659	1-4C 67-96	23	1.0	31.0	16.0	10.0	< 0.04	< 0.05	0.04	0.06	< 0.02	0.03	0.14	0.25
7	20MAR80 630	20MAR80 659	0.6C 67-97	120	.	27.0	.	.	.	.	.	.	.	.	.	.
7	20MAR80 1400	20MAR80 1433	1-4C 67-98	5.0	8.0	24.0	16.0	< 1.0	< 0.04	0.32	0.06	0.10	< 0.02	0.07	0.55	0.61
7	20MAR80 1400	20MAR80 1433	0.6C 67-99	86	1.0	24.0	.	.	.	.	.	.	.	.	.	.
7	20MAR80 1840	20MAR80 1859	1-4C 67-100	<1.0	.	22.0	15.0	2.0	< 0.05	0.12	0.05	0.11	< 0.02	0.04	0.32	0.39
7	20MAR80 1840	20MAR80 1859	0.6C 67-101	1.0	87.0	29.0	.	.	.	.	.	.	.	.	.	.
7	23MAR80 953	23MAR80 1014	1-4C 67-128	3.0	3.0	78.0	15.0	55.0	.	.	.	.	.	.	.	.
7	23MAR80 953	23MAR80 1014	0.6C 67-129	<1.0	.	85.0	.	.	.	.	.	.	.	.	.	.
7	24MAR80 1110	24MAR80 1143	1-4C 67-130	1.0	9.0	63.0	11.0	.	< 0.05	< 0.07	< 0.04	< 0.03	< 0.02	< 0.03	0.00	0.24
7	24MAR80 1110	24MAR80 1143	0.6C 67-131	5.0	40.0	58.0	.	.	.	.	.	.	.	.	.	.
7	26MAR80 1100	26MAR80 1130	1-4C 67-150	1.0	12.0	26.0	14.0	15.0	< 0.03	< 0.04	< 0.02	0.02	< 0.01	< 0.02	0.02	0.13
7	26MAR80 1100	26MAR80 1130	0.6C 67-151	<1.0	.	24.0	.	.	.	.	.	.	.	.	.	.
7	26MAR80 1030	26MAR80 1112	1-4C 67-152	2.0	3.0	23.0	7.0	10.0	< 0.04	< 0.05	< 0.03	0.03	< 0.02	0.03	0.06	0.20
7	26MAR80 1030	26MAR80 1112	0.6C 67-153	1.0	29.0	19.0	.	.	.	.	.	.	.	.	.	.
7	31MAR80 1230	31MAR80 1309	1-4C 67-164	<1.0	.	23.0	8.0	8.0	< 0.04	0.05	0.03	0.05	< 0.02	0.03	0.16	0.21
7	31MAR80 1230	31MAR80 1309	0.6C 67-165	1.0	60.0	28.0	.	.	.	.	.	.	.	.	.	.
7	3APR80 1000	3APR80 1025	1-4C 67-166	1.0	25.0	21.0	8.0	2.0	< 0.04	0.12	0.14	0.25	0.04	0.11	0.65	0.69
7	3APR80 1000	3APR80 1025	0.6C 67-167	<1.0	.	17.0	.	.	.	.	.	.	.	.	.	.

FOOTNOTES:

- MINIMUM TOTAL DDT CALCULATED BY SETTING ALL LESS THAN VALUES TO ZERO.
- MAXIMUM TOTAL DDT CALCULATED BY SETTING ALL LESS THAN VALUES TO THEIR ABSOLUTE VALUE.
- SUSPENDED SOLIDS, <63U - INFILTRABLE RESIDUE WHICH PASSED THROUGH A 63UM SIEVE BUT WAS RETAINED ON A GLASS FIBER FILTER PAD.
- VOLATILE SOLIDS, <63U - VOLATILE SUSPENDED SOLIDS RETAINED ON A GLASS FIBER FILTER PAD.
- 0.45U, <63U - NONFILTRABLE RESIDUE WHICH PASSED THROUGH A GLASS FIBER FILTER PAD BUT WAS RETAINED ON A 0.45UM MEMBRANE FILTER.
- MLOC - HORIZONTAL LOCATION:
1-4C - REFERS TO A COMPOSITE SAMPLE OF DEPTHS 1 THRU 4 AND HORIZONTAL LOCATIONS LEFT, MIDDLE, AND RIGHT;
0-6C - REFERS TO A COMPOSITE SAMPLE OF HORIZONTAL LOCATIONS LEFT, MIDDLE AND RIGHT AT 0.6 OF THE DEPTH.

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WHEELER RESERVOIR, ALABAMA

TASK 6 - ASSESSMENT OF DDT TRANSPORT - HYDROLOGIC AND SEDIMENT DATA

RAIN EVENT	BEGINNING DATE-TIME	ENDING DATE-TIME	HLOC	LAVID	--->63U---			---SOLIDS---			---CONCENTRATIONS OF DDT IN WATER (UG/L)---						TOTAL DDT		
					SUS (MG/L)	VOL (L)	WGL (MG/L)	SUS (MG/L)	VOL (L)	WGL (MG/L)	DDT O,P	P,P	DDD O,P	P,P	DDE O,P	MIN	MAX		
M-VILLE SPRING BRANCH 2.4 - UDDO ROAD																			
5	19JAN80	1122	18JAN80	1202	1-4C	6M-13	8.5	9.6	130.0	26.0	6.0	0.08	0.31	1.08	1.41	0.15	0.21	3.24	3.24
5	18JAN80	1559	18JAN80	1637	1-4C	6M-14	6.4	66.0	91.0	23.0	3.0	0.10	0.12	1.11	1.50	0.15	0.24	3.22	3.22
5	18JAN80	2100	18JAN80	2143	1-4C	6M-03	9.1	87.0	80.0	22.0	4.0	0.14	0.08	1.03	1.84	0.16	0.24	3.49	3.49
5	18JAN80	2325	19JAN80	15	1-4C	6M-15	5.1	35.0	68.0	19.0	4.0	0.06	0.08	0.94	1.41	0.13	0.21	2.83	2.83
5	19JAN80	125	19JAN80	205	1-4C	6M-16	4.4	80.0	66.0	19.0	4.0	0.08	0.16	1.02	1.40	0.16	0.25	3.06	3.06
5	19JAN80	1452	19JAN80	1555	1-4C	6M-17	2.4	53.0	50.0	18.0	1.0	0.07	0.07	0.91	1.45	0.13	0.19	2.82	2.82
6	22JAN80	2050	22JAN80	2112	1-4C	6M-56	3.0	25.0	49.0	13.0	3.0	0.03	0.07	0.29	0.43	0.04	0.07	0.93	0.93
6	22JAN80	2050	22JAN80	2112	0.6C	6M-57	2.0	28.0	51.0	11.0	2.0	0.02	0.05	0.25	0.47	0.05	0.06	0.90	0.90
6	22JAN80	2345	23JAN80	36	1-4C	6M-58	13	7.5	52.0	12.0	4.0	0.02	0.05	0.25	0.47	0.05	0.06	0.90	0.90
6	22JAN80	2345	23JAN80	38	0.6C	6M-59	3.0	24.0	57.0	11.0	4.0	0.02	0.04	0.34	0.51	0.05	0.09	1.05	1.05
6	23JAN80	340	23JAN80	445	1-4C	6M-60	3.0	25.0	54.0	11.0	9.0	0.02	0.04	0.34	0.51	0.05	0.09	1.05	1.05
6	23JAN80	340	23JAN80	445	0.6C	6M-61	3.0	27.0	52.0	11.0	8.0	0.03	0.04	0.38	0.65	0.06	0.10	1.26	1.26
6	23JAN80	640	23JAN80	730	1-4C	6M-62	2.0	23.0	49.0	10.0	13.0	0.03	0.04	0.38	0.65	0.06	0.10	1.26	1.26
6	23JAN80	640	23JAN80	730	0.6C	6M-63	2.0	25.0	48.0	10.0	8.0	0.02	0.03	0.21	0.30	0.04	0.06	0.64	0.64
6	23JAN80	1030	23JAN80	1130	1-4C	6M-64	3.0	19.0	44.0	11.0	7.0	0.02	0.03	0.21	0.30	0.04	0.06	0.64	0.64
6	23JAN80	1030	23JAN80	1130	0.6C	6M-65	3.0	24.0	40.0	8.0	7.0	0.02	0.03	0.21	0.30	0.04	0.06	0.64	0.64
6	24JAN80	955	24JAN80	1025	1-4C	6M-66	1.0	21.0	23.0	14.0	2.0	0.02	0.03	0.11	0.17	0.02	0.02	0.32	0.32
6	24JAN80	955	24JAN80	1025	0.6C	6M-67	1.0	21.0	23.0	14.0	2.0	0.02	0.03	0.11	0.17	0.02	0.02	0.32	0.32
6	24JAN80	1345	24JAN80	1404	1-4C	6M-68	1.0	34.0	22.0	8.0	1.0	0.02	0.03	0.14	0.19	0.02	0.03	0.43	0.43
6	24JAN80	1345	24JAN80	1404	0.6C	6M-69	1.0	34.0	22.0	8.0	1.0	0.02	0.03	0.14	0.19	0.02	0.03	0.43	0.43
6	25JAN80	910	25JAN80	931	1-4C	6M-70	2.0	9.8	23.0	7.0	2.0	0.03	0.06	0.49	0.70	0.07	0.11	1.46	1.46
6	25JAN80	910	25JAN80	931	0.6C	6M-71	2.0	26.0	20.0	5.0	1.0	0.03	0.06	0.49	0.70	0.07	0.11	1.46	1.46
6	25JAN80	1418	25JAN80	1435	1-4C	6M-72	1.0	13.0	20.0	7.0	1.0	0.02	0.05	0.22	0.38	0.04	0.05	0.74	0.74
6	25JAN80	1418	25JAN80	1435	0.6C	6M-73	1.0	13.0	20.0	7.0	1.0	0.02	0.05	0.22	0.38	0.04	0.05	0.74	0.74
7	17MAR80	1300	17MAR80	1505	1-4C	67-34	8.0	35.0	79.0	16.0	11.0	0.03	0.03	0.56	0.87	0.09	0.12	1.67	1.67
7	17MAR80	1300	17MAR80	1505	0.6C	67-35	6.0	30.0	74.0	16.0	13.0	0.03	0.09	0.46	0.82	0.08	0.11	1.59	1.59
7	17MAR80	1545	17MAR80	1608	1-4C	67-36	6.0	54.0	74.0	16.0	13.0	0.03	0.09	0.46	0.82	0.08	0.11	1.59	1.59
7	17MAR80	1545	17MAR80	1608	0.6C	67-37	5.0	51.0	76.0	16.0	16.0	0.03	0.09	0.46	0.82	0.08	0.11	1.59	1.59
7	17MAR80	1731	17MAR80	1805	1-4C	67-38	5.0	47.0	84.0	18.0	16.0	0.03	0.09	0.38	0.69	0.07	0.11	1.37	1.37
7	17MAR80	1731	17MAR80	1805	0.6C	67-39	3.0	24.0	84.0	18.0	16.0	0.03	0.09	0.38	0.69	0.07	0.11	1.37	1.37
7	17MAR80	2040	17MAR80	2100	1-4C	67-40	6.0	33.0	85.0	16.0	28.0	0.02	0.06	0.28	0.48	0.05	0.08	0.97	0.97
7	17MAR80	2040	17MAR80	2100	0.6C	67-41	5.0	69.0	80.0	16.0	28.0	0.02	0.06	0.28	0.48	0.05	0.08	0.97	0.97
7	17MAR80	2340	17MAR80	2400	1-4C	67-42	2.0	24.0	80.0	16.0	24.0	0.02	0.05	0.29	0.50	0.06	0.09	1.01	1.01
7	17MAR80	2340	17MAR80	2400	0.6C	67-43	2.0	22.0	86.0	16.0	24.0	0.02	0.05	0.29	0.50	0.06	0.09	1.01	1.01
7	18MAR80	120	18MAR80	210	1-4C	67-44	2.0	26.0	84.0	16.0	17.0	0.02	0.07	0.26	0.46	0.05	0.09	0.95	0.95
7	18MAR80	120	18MAR80	210	0.6C	67-45	13	87.0	71.0	15.0	19.0	0.02	0.07	0.26	0.46	0.05	0.09	0.95	0.95
7	18MAR80	400	18MAR80	435	1-4C	67-46	3.0	30.0	82.0	15.0	20.0	0.02	0.08	0.23	0.40	0.05	0.08	0.86	0.86
7	18MAR80	400	18MAR80	435	0.6C	67-47	1.0	26.0	80.0	15.0	20.0	0.02	0.08	0.23	0.40	0.05	0.08	0.86	0.86
7	18MAR80	600	18MAR80	632	1-4C	67-48	8.0	81.0	72.0	15.0	20.0	0.02	0.06	0.28	0.49	0.06	0.10	1.01	1.01
7	18MAR80	600	18MAR80	632	0.6C	67-49	1.0	21.0	64.0	15.0	21.0	0.01	0.10	0.23	0.45	0.05	0.08	0.92	0.92
7	18MAR80	740	18MAR80	810	1-4C	67-50	12	21.0	64.0	15.0	21.0	0.01	0.10	0.23	0.45	0.05	0.08	0.92	0.92
7	18MAR80	740	18MAR80	810	0.6C	67-51	22	25.0	64.0	15.0	21.0	0.01	0.10	0.23	0.45	0.05	0.08	0.92	0.92
7	18MAR80	1000	18MAR80	1030	1-4C	67-52	3.0	42.0	63.0	13.0	29.0	0.02	0.05	0.30	0.51	0.06	0.11	1.03	1.03
7	18MAR80	1000	18MAR80	1030	0.6C	67-53	3.0	23.0	60.0	13.0	29.0	0.02	0.05	0.30	0.51	0.06	0.11	1.03	1.03
7	18MAR80	1120	18MAR80	1145	1-4C	67-54	7.0	14.0	61.0	16.0	27.0	0.02	0.03	0.22	0.35	0.05	0.07	0.74	0.74
7	18MAR80	1120	18MAR80	1145	0.6C	67-55	3.0	56.0	52.0	12.0	18.0	0.02	0.03	0.22	0.35	0.05	0.07	0.74	0.74
7	18MAR80	1255	18MAR80	1320	1-4C	67-56	2.0	66.0	56.0	12.0	18.0	0.02	0.03	0.22	0.35	0.05	0.07	0.74	0.74

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK 6 - ASSESSMENT OF DDT TRANSPORT - HYDROLOGIC AND SEDIMENT DATA

RAIN EVENT	BEGINNING DATE-TIME	ENDING DATE-TIME	MLUC LABID	---SOLIDS---			---CONCENTRATIONS OF DDT IN WATER (UG/L)---						TOTAL DDT	
				---SOLIDS---			---CONCENTRATIONS OF DDT IN WATER (UG/L)---						MIN	MAX
				SUS (MG/L)	VOL (L)	63U (MG/L)	DDT O,P	DDD O,P	DDO O,P	DDT O,P	DDD O,P	DDO O,P		
7	18MAR80	1255	18MAR80 1320	0.6C 67-57	1.0	1.0	0.02	0.03	0.15	0.25	0.04	0.05	0.49	0.54
7	18MAR80	1530	18MAR80 1551	1-4C 67-58	1.0	1.0	0.02	0.03	0.15	0.25	0.04	0.05	0.49	0.54
7	18MAR80	1530	18MAR80 1551	0.6C 67-59	1.0	1.0	0.02	0.03	0.15	0.25	0.04	0.05	0.49	0.54
7	18MAR80	1747	18MAR80 1804	1-4C 67-60	10	26.0	0.02	0.03	0.14	0.21	0.03	0.04	0.45	0.47
7	18MAR80	1747	18MAR80 1804	0.6C 67-61	1.0	1.0	0.02	0.03	0.14	0.21	0.03	0.04	0.45	0.47
7	19MAR80	1002	19MAR80 1030	1-4C 67-102	1.0	1.0	0.02	0.03	0.14	0.21	0.03	0.04	0.45	0.47
7	19MAR80	1002	19MAR80 1030	0.6C 67-103	1.0	1.0	0.02	0.03	0.14	0.21	0.03	0.04	0.45	0.47
7	19MAR80	1802	19MAR80 1828	1-4C 67-104	1.0	1.0	0.02	0.03	0.14	0.21	0.03	0.04	0.45	0.47
7	19MAR80	1802	19MAR80 1828	0.6C 67-105	1.0	1.0	0.02	0.03	0.14	0.21	0.03	0.04	0.45	0.47
7	20MAR80	1007	20MAR80 1043	1-4C 67-106	2.0	14.0	0.02	0.03	0.15	0.24	0.04	0.05	0.48	0.53
7	20MAR80	1007	20MAR80 1043	0.6C 67-107	1.0	13.0	0.02	0.03	0.15	0.24	0.04	0.05	0.48	0.53
7	20MAR80	1007	20MAR80 1043	1-4C 67-108	1.0	13.0	0.02	0.03	0.15	0.24	0.04	0.05	0.48	0.53
7	20MAR80	1740	20MAR80 1755	1-4C 67-109	1.0	13.0	0.02	0.03	0.15	0.24	0.04	0.05	0.48	0.53
7	20MAR80	1740	20MAR80 1755	0.6C 67-110	1.0	13.0	0.02	0.03	0.15	0.24	0.04	0.05	0.48	0.53
7	21MAR80	1030	21MAR80 1100	1-4C 67-132	3.0	3.0	0.02	0.03	0.15	0.24	0.04	0.05	0.48	0.53
7	21MAR80	1030	21MAR80 1100	0.6C 67-133	1.0	38.0	0.02	0.03	0.15	0.24	0.04	0.05	0.48	0.53
7	21MAR80	1030	21MAR80 1100	1-4C 67-134	1.0	25.0	0.02	0.03	0.15	0.24	0.04	0.05	0.48	0.53
7	22MAR80	900	22MAR80 919	1-4C 67-135	1.0	25.0	0.02	0.03	0.15	0.24	0.04	0.05	0.48	0.53
7	22MAR80	900	22MAR80 919	0.6C 67-136	1.0	25.0	0.02	0.03	0.15	0.24	0.04	0.05	0.48	0.53
7	23MAR80	1205	23MAR80 1233	1-4C 67-137	7.0	9.0	0.02	0.03	0.15	0.24	0.04	0.05	0.48	0.53
7	23MAR80	1205	23MAR80 1233	0.6C 67-138	1.0	9.0	0.02	0.03	0.15	0.24	0.04	0.05	0.48	0.53
7	24MAR80	1410	24MAR80 1452	1-4C 67-139	1.0	8.0	0.02	0.03	0.15	0.24	0.04	0.05	0.48	0.53
7	24MAR80	1410	24MAR80 1452	0.6C 67-140	1.0	8.0	0.02	0.03	0.15	0.24	0.04	0.05	0.48	0.53
7	26MAR80	1324	26MAR80 1403	1-4C 67-154	20	20.0	0.02	0.03	0.15	0.24	0.04	0.05	0.48	0.53
7	26MAR80	1324	26MAR80 1403	0.6C 67-155	1.0	20.0	0.02	0.03	0.15	0.24	0.04	0.05	0.48	0.53
7	26MAR80	1324	26MAR80 1403	1-4C 67-156	1.0	20.0	0.02	0.03	0.15	0.24	0.04	0.05	0.48	0.53
7	26MAR80	1324	26MAR80 1403	0.6C 67-157	1.0	20.0	0.02	0.03	0.15	0.24	0.04	0.05	0.48	0.53
7	31MAR80	1503	31MAR80 1535	1-4C 67-168	1.0	18.0	0.02	0.03	0.15	0.24	0.04	0.05	0.48	0.53
7	31MAR80	1503	31MAR80 1535	0.6C 67-169	4.0	18.0	0.02	0.03	0.15	0.24	0.04	0.05	0.48	0.53
7	3APR80	1135	3APR80 1156	1-4C 67-170	2.0	14.0	0.02	0.03	0.15	0.24	0.04	0.05	0.48	0.53
7	3APR80	1135	3APR80 1156	0.6C 67-171	6.0	20.0	0.02	0.03	0.15	0.24	0.04	0.05	0.48	0.53
M-VILLE SPRING BRANCH 5.6 - PATTON ROAD														
5	18JAN80	403	18JAN80 956	1-4C 6M-18	22	46.0	0.03	0.03	0.03	0.11	0.01	0.01	0.18	0.22
5	18JAN80	2215	18JAN80 2240	1-4C 6M-04	6.6	3.5	0.06	0.06	0.06	0.18	0.02	0.02	0.24	0.40
6	22JAN80	1745	22JAN80 1850	1-4C 6M-74	11	21.0	0.02	0.03	0.03	0.09	0.01	0.01	0.12	0.19
6	22JAN80	1745	22JAN80 1850	0.6C 6M-75	15	26.0	0.02	0.03	0.03	0.12	0.01	0.01	0.15	0.22
6	23JAN80	145	23JAN80 215	1-4C 6M-76	7.0	23.0	0.02	0.03	0.03	0.12	0.01	0.01	0.15	0.22
6	23JAN80	145	23JAN80 215	0.6C 6M-77	7.0	26.0	0.02	0.03	0.03	0.12	0.01	0.01	0.15	0.22
6	23JAN80	747	23JAN80 815	1-4C 6M-78	4.0	21.0	0.02	0.03	0.03	0.12	0.01	0.01	0.15	0.22
6	23JAN80	747	23JAN80 815	0.6C 6M-79	3.0	29.0	0.02	0.03	0.03	0.12	0.01	0.01	0.15	0.22
6	24JAN80	815	24JAN80 835	1-4C 6M-80	4.0	33.0	0.02	0.03	0.03	0.12	0.01	0.01	0.15	0.22
6	24JAN80	815	24JAN80 835	0.6C 6M-81	2.0	37.0	0.02	0.03	0.03	0.12	0.01	0.01	0.15	0.22
6	24JAN80	1056	24JAN80 1117	1-4C 6M-82	6.0	21.0	0.02	0.03	0.03	0.12	0.01	0.01	0.15	0.22
6	25JAN80	755	25JAN80 817	1-4C 6M-83	3.0	34.0	0.02	0.03	0.03	0.12	0.01	0.01	0.15	0.22
6	25JAN80	755	25JAN80 817	0.6C 6M-84	6.0	36.0	0.02	0.03	0.03	0.12	0.01	0.01	0.15	0.22
6	25JAN80	1309	25JAN80 1330	1-4C 6M-85	4.0	22.0	0.02	0.03	0.03	0.12	0.01	0.01	0.15	0.22
6	25JAN80	1309	25JAN80 1330	0.6C 6M-86	12	98.0	0.02	0.03	0.03	0.12	0.01	0.01	0.15	0.22
7	17MAR80	1130	17MAR80 1250	1-4C 67-62	15	39.0	0.02	0.03	0.03	0.12	0.01	0.01	0.15	0.22
7	17MAR80	1130	17MAR80 1250	0.6C 67-63	15	39.0	0.02	0.03	0.03	0.12	0.01	0.01	0.15	0.22
7	17MAR80	1330	17MAR80 1445	1-4C 67-64	102	89.0	0.02	0.03	0.03	0.12	0.01	0.01	0.15	0.22

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
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TASK 6 - ASSESSMENT OF DDT TRANSPORT - HYDROLOGIC AND SEDIMENT DATA

RAIN EVENT	BEGINNING DATE-TIME	ENDING DATE-TIME	HLOC LABID	SOLIDS		CONCENTRATIONS OF DDT IN WATER (UG/L)												TOTAL DDT	
				SUS (MG/L)	VOL (L)	DDT			DDE			DDE			DDE				
						C,P	P,P	P,P	C,P	P,P	P,P	C,P	P,P	P,P	C,P	P,P	P,P	MIN	MAX
7	17MAR80 1330	17MAR80 1445	0.6C 67-65	10	21.0	110.0	14.0	14.0	0.02	0.03	0.01	0.02	0.01	0.01	0.02	0.01	0.01	0.02	0.10
7	17MAR80 1445	17MAR80 1540	1-4C 67-66	16	41.0	92.0	18.0	14.0	0.02	0.03	0.01	0.02	0.01	0.01	0.02	0.01	0.01	0.02	0.10
7	17MAR80 1445	17MAR80 1540	0.6C 67-67	7.0	32.0	98.0	15.0	29.0	0.02	0.03	0.01	0.02	0.01	0.01	0.02	0.01	0.01	0.02	0.09
7	17MAR80 1715	17MAR80 1805	1-4C 67-68	10	15.0	89.0	15.0	29.0	0.02	0.03	0.01	0.02	0.01	0.01	0.02	0.01	0.01	0.02	0.09
7	17MAR80 1715	17MAR80 1805	0.6C 67-69	13	28.0	72.0	15.0	29.0	0.02	0.03	0.01	0.02	0.01	0.01	0.02	0.01	0.01	0.02	0.09
7	17MAR80 2140	17MAR80 2152	1-4C 67-70	4.0	23.0	73.0	16.0	18.0	0.02	0.03	0.01	0.02	0.01	0.01	0.02	0.01	0.01	0.02	0.09
7	17MAR80 2140	17MAR80 2152	0.6C 67-71	5.0	12.0	70.0	16.0	18.0	0.02	0.03	0.01	0.02	0.01	0.01	0.02	0.01	0.01	0.02	0.09
7	18MAR80 1235	18MAR80 1315	1-4C 67-72	3.0	27.0	50.0	10.0	14.0	0.02	0.03	0.01	0.02	0.01	0.01	0.02	0.01	0.01	0.02	0.09
7	18MAR80 1235	18MAR80 1315	0.6C 67-73	3.0	29.0	47.0	10.0	14.0	0.02	0.03	0.01	0.02	0.01	0.01	0.02	0.01	0.01	0.02	0.10
7	18MAR80 1720	18MAR80 1800	1-4C 67-74	3.0	53.0	48.0	11.0	8.0	0.02	0.03	0.01	0.02	0.01	0.01	0.02	0.01	0.01	0.02	0.10
7	18MAR80 1720	18MAR80 1800	0.6C 67-75	1.0	26.0	39.0	10.0	2.0	0.02	0.03	0.01	0.02	0.01	0.01	0.02	0.01	0.01	0.02	0.09
7	19MAR80 918	19MAR80 1012	1-4C 67-76	4.0	26.0	32.0	10.0	2.0	0.02	0.03	0.01	0.02	0.01	0.01	0.02	0.01	0.01	0.02	0.09
7	19MAR80 918	19MAR80 1012	0.6C 67-77	1.0	51.0	23.0	10.0	1.0	0.02	0.03	0.01	0.02	0.01	0.01	0.02	0.01	0.01	0.02	0.10
7	19MAR80 1715	19MAR80 1745	1-4C 67-78	2.0	32.0	30.0	10.0	35.0	0.02	0.03	0.01	0.02	0.01	0.01	0.02	0.01	0.01	0.02	0.10
7	19MAR80 1715	19MAR80 1745	0.6C 67-79	1.0	18.0	220.0	31.0	35.0	0.02	0.03	0.01	0.02	0.01	0.01	0.02	0.01	0.01	0.02	0.10
7	20MAR80 1141	20MAR80 1230	1-4C 67-110	7.0	16.0	210.0	21.0	42.0	0.02	0.03	0.01	0.02	0.01	0.01	0.02	0.01	0.01	0.02	0.10
7	20MAR80 1141	20MAR80 1230	0.6C 67-111	5.0	16.0	210.0	21.0	42.0	0.02	0.03	0.01	0.02	0.01	0.01	0.02	0.01	0.01	0.02	0.10
7	20MAR80 1705	20MAR80 1720	1-4C 67-112	16	73.0	160.0	21.0	42.0	0.02	0.03	0.01	0.02	0.01	0.01	0.02	0.01	0.01	0.02	0.10
7	20MAR80 1705	20MAR80 1720	0.6C 67-113	19	19.0	160.0	21.0	42.0	0.02	0.03	0.01	0.02	0.01	0.01	0.02	0.01	0.01	0.02	0.09
7	21MAR80 945	21MAR80 1015	1-4C 67-114	1.0	41.0	110.0	15.0	64.0	0.02	0.03	0.01	0.02	0.01	0.01	0.02	0.01	0.01	0.02	0.09
7	21MAR80 945	21MAR80 1015	0.6C 67-115	1.0	41.0	120.0	15.0	64.0	0.02	0.03	0.01	0.02	0.01	0.01	0.02	0.01	0.01	0.02	0.10
7	22MAR80 1050	22MAR80 1102	1-4C 67-140	3.0	14.0	41.0	15.0	22.0	0.02	0.03	0.01	0.02	0.01	0.01	0.02	0.01	0.01	0.02	0.10
7	22MAR80 1050	22MAR80 1102	0.6C 67-141	2.0	7.0	48.0	15.0	22.0	0.02	0.03	0.01	0.02	0.01	0.01	0.02	0.01	0.01	0.02	0.11
7	22MAR80 1445	22MAR80 1500	1-4C 67-142	1.0	7.0	29.0	15.0	14.0	0.02	0.03	0.01	0.02	0.01	0.01	0.02	0.01	0.01	0.02	0.10
7	22MAR80 1445	22MAR80 1500	0.6C 67-143	1.0	7.0	28.0	15.0	14.0	0.02	0.03	0.01	0.02	0.01	0.01	0.02	0.01	0.01	0.02	0.10
7	22MAR80 1405	22MAR80 1518	1-4C 67-158	14	7.0	26.0	9.0	10.0	0.02	0.03	0.01	0.02	0.01	0.01	0.02	0.01	0.01	0.02	0.10
7	22MAR80 1405	22MAR80 1518	0.6C 67-159	18	13.0	29.0	9.0	10.0	0.02	0.03	0.01	0.02	0.01	0.01	0.02	0.01	0.01	0.02	0.10
7	28MAR80 1324	28MAR80 1339	1-4C 67-144	4.0	7.0	100.0	21.0	36.0	0.02	0.03	0.01	0.02	0.01	0.01	0.02	0.01	0.01	0.02	0.10
7	28MAR80 1324	28MAR80 1339	0.6C 67-145	3.0	21.0	83.0	21.0	36.0	0.02	0.03	0.01	0.02	0.01	0.01	0.02	0.01	0.01	0.02	0.10
7	31MAR80 1458	31MAR80 1515	1-4C 67-174	2.0	26.0	20.0	8.0	3.0	0.02	0.03	0.01	0.02	0.01	0.01	0.02	0.01	0.01	0.02	0.10
7	31MAR80 1458	31MAR80 1515	0.6C 67-175	2.0	15.0	18.0	8.0	3.0	0.02	0.03	0.01	0.02	0.01	0.01	0.02	0.01	0.01	0.02	0.10
7	3APR80 1258	3APR80 1330	1-4C 67-172	5.0	34.0	23.0	8.0	12.0	0.02	0.03	0.01	0.02	0.01	0.01	0.02	0.01	0.01	0.02	0.14
7	3APR80 1258	3APR80 1330	0.6C 67-173	11	22.0	30.0	8.0	12.0	0.02	0.03	0.01	0.02	0.01	0.01	0.02	0.01	0.01	0.02	0.14

INDIAN CREEK		- MARTIN ROAD																	
5	18JAN80 1004	18JAN80 1022	1-4C 6M-19	13	41.0	100.0	40.0	6.0	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.13
5	18JAN80 1500	18JAN80 1540	1-4C 6M-05	0.4	71.0	54.0	18.0	2.0	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	1.52	1.52
5	16JAN80 2010	18JAN80 2060	1-4C 6M-06	0.5	71.0	44.0	17.0	2.0	0.05	0.04	0.04	0.05	0.04	0.05	0.04	0.05	0.04	2.60	2.60
5	18JAN80 2301	18JAN80 2336	1-4C 6M-01	1.0	28.0	57.0	18.0	3.0	0.15	0.07	0.07	0.15	0.07	0.07	0.15	0.07	0.15	2.62	2.62
5	19JAN80 140	19JAN80 205	1-4C 6M-07	0.7	61.0	63.0	20.0	5.0	0.06	0.07	0.07	0.06	0.07	0.07	0.06	0.07	0.06	2.39	2.39
5	19JAN80 1600	19JAN80 1625	1-4C 6M-08	0.5	53.0	54.0	18.0	4.0	0.04	0.05	0.05	0.04	0.05	0.05	0.04	0.05	0.04	1.58	1.58
6	22JAN80 1857	22JAN80 1945	1-4C 6M-20	1.0	64.0	28.0	8.0	1.0	0.02	0.02	0.03	0.02	0.02	0.03	0.02	0.02	0.03	0.70	0.75
6	22JAN80 1857	22JAN80 1945	0.6C 6M-21	1.0	63.0	30.0	8.0	1.0	0.02	0.02	0.03	0.02	0.02	0.03	0.02	0.02	0.03	0.70	0.75
6	22JAN80 2220	20JAN80 2301	1-4C 6M-22	1.0	64.0	28.0	9.0	1.0	0.04	0.09	0.09	0.04	0.09	0.09	0.04	0.09	0.04	1.77	1.77
6	22JAN80 2220	20JAN80 2301	0.6C 6M-23	1.0	57.0	31.0	7.0	2.0	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	1.69	1.69
6	23JAN80 140	23JAN80 230	1-4C 6M-24	1.0	54.0	29.0	8.0	1.0	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.95	0.95
6	23JAN80 140	23JAN80 230	0.6C 6M-25	1.0	88.0	23.0	9.0	3.0	0.02	0.02	0.03	0.02	0.02	0.03	0.02	0.02	0.03	0.90	0.95
6	23JAN80 532	23JAN80 642	1-4C 6M-26	2.0	92.0	36.0	9.0	3.0	0.02	0.02	0.03	0.02	0.02	0.03	0.02	0.02	0.03	0.90	0.95
6	23JAN80 532	23JAN80 642	0.6C 6M-27	1.0	75.0	35.0	10.0	2.0	0.02	0.02	0.03	0.02	0.02	0.03	0.02	0.02	0.03	0.90	0.95

INDIAN CREEK - MARTIN ROAD

RAIN EVENT		LOCATION		DATE-TIME		HLOC LABID		SOLIDS		CONCENTRATIONS OF DDT IN WATER (UG/L)												TOTAL DDT	
										DDT			DDE			DDE			DDE				
										C,P	P,P	P,P	C,P	P,P	P,P	C,P	P,P	P,P	C,P	P,P	P,P	MIN	MAX
5	18JAN80	1004	18JAN80	1022	1-4C	6M-19	13	41.0	100.0	40.0	6.0	0.03	0.03	0.02	0.03	0.01	0.01	0.03	0.03	0.01	0.01	0.03	0.13
5	18JAN80	1500	18JAN80	1540	1-4C	6M-05	0.4	71.0	54.0	18.0	2.0	0.03	0.03	0.02	0.03	0.01	0.01	0.03	0.03	0.01	0.01	0.03	1.52
5	16JAN80	2010	18JAN80	2060	1-4C	6M-06	0.5	71.0	44.0	17.0	2.0	0.03	0.03	0.02	0.03	0.01	0.01	0.03	0.03	0.01	0.01	0.03	2.60
5	18JAN80	2301	18JAN80	2336	1-4C	6M-01	1.0	28.0	57.0	18.0	3.0	0.03	0.03	0.02	0.03	0.01	0.01	0.03	0.03	0.01	0.01	0.03	2.62
5	19JAN80	140	19JAN80	205	1-4C	6M-07	0.7	61.0	63.0	20.0	5.0	0.06	0.07	0.36	0.06	0.07	0.24	0.06	0.07	0.24	0.06	0.07	2.39
5	19JAN80	1600	19JAN80	1625	1-4C	6M-08	0.5	53.0	54.0	18.0	4.0	0.04	0.05	0.41	0.04	0.05	0.25	0.04	0.05	0.25	0.04	0.05	1.58
6	22JAN80	1857	22JAN80	1945	1-4C	6M-20	1.0	64.0	28.0	8.0	1.0	0.02	0.03	0.22	0.02	0.03	0.04	0.02	0.03	0.04	0.02	0.03	0.75
6	22JAN80	1857	22JAN80	1945	0.6C	6M-21	1.0	23.0	30.0	8.0	1.0	0.02	0.03	0.22	0.02	0.03	0.04	0.02	0.03	0.04	0.02	0.03	0.75
6	22JAN80	2220	20JAN80	2301	1-4C	6M-22	1.0	64.0	28.0	9.0	1.0	0.04	0.09	0.57	0.04	0.09	0.13	0.04	0.09	0.13	0.04	0.09	1.77
6	22JAN80	2220	20JAN80	2301	0.6C	6M-23	1.0	57.0	31.0	7.0	2.0	0.03	0.03	0.50	0.03	0.03	0.12	0.03	0.03	0.12	0.03	0.03	1.69
6	23JAN80	140	23JAN80	230	1-4C	6M-24	1.0	54.0	29.0	8.0	1.0	0.03	0.03	0.50	0.03	0.03	0.12	0.03	0.03	0.12	0.03	0.03	1.69
6	23JAN80	532	23JAN80	642	0.6C	6M-25	1.0	88.0	23.0	9.0	3.0	0.02	0.03	0.30	0.02	0.03	0.06	0.02	0.03	0.06	0.02	0.03	0.95
6	23JAN80	532	23JAN80	642	1-4C	6M-26	2.0	92.0	36.0	9.0	3.0	0.02	0.03	0.30	0.02	0.03	0.06	0.02	0.03	0.06	0.02	0.03	0.95
6	23JAN80	532	23JAN80	642	0.6C	6M-27	1.0	75.0	35.0	10.0	2.0	0.02	0.03	0.30	0.02	0.03	0.06	0.02	0.03	0.06	0.02	0.03	0.95

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

10

TASK 6 - ASSESSMENT OF DDT TRANSPORT - HYDROLOGIC AND SEDIMENT DATA

RAIN BEGINNING			ENDING		MLOC LABID		SUS VOL		SUS VOL		CONCENTRATIONS OF DDT IN WATER (UG/L)---										TOTAL	
EVENT	DATE-TIME		DATE-TIME		MLOC	LABID	SUS	VOL	SUS	VOL	--SOLIDS--					--DISSOLVED FRACTION--					MIN	MAX
							(MG/L)	(L)			>63U		<63U		DDT		DDO		P,P		P,P	
											O,P	P,P	O,P	P,P	O,P	P,P	O,P	P,P				
6	23JAN80	1115	23JAN80	1200	1-4C	6M-28	<1.0	21.0	44.0	10.0	3.0	0.03	0.04	0.34	0.62	0.06	0.08	1.17	1.17			
6	23JAN80	1115	23JAN80	1200	0-6C	6M-29	<1.0	56.0	41.0	9.0	4.0	<0.02	<0.03	0.21	0.36	0.03	0.05	0.65	0.70			
6	24JAN80	1210	24JAN80	1235	1-4C	6M-30	<1.0	10.0	32.0	8.0	7.0	<0.02	<0.03	0.27	0.48	0.05	0.07	0.87	0.92			
6	24JAN80	1210	24JAN80	1235	0-6C	6M-31	<1.0	69.0	33.0	9.0	5.0	<0.02	<0.03	0.27	0.48	0.05	0.07	0.87	0.92			
6	24JAN80	1620	24JAN80	1644	1-4C	6M-32	<1.0	31.0	33.0	6.0	5.0	<0.02	<0.03	0.09	0.22	0.02	0.03	0.36	0.41			
6	24JAN80	1620	24JAN80	1644	0-6C	6M-33	<1.0	53.0	32.0	8.0	4.0	<0.02	<0.03	0.10	0.15	0.02	0.03	0.30	0.35			
6	25JAN80	1040	25JAN80	1110	1-4C	6M-34	<1.0	24.0	30.0	7.0	5.0	<0.02	<0.03	0.10	0.15	0.02	0.03	0.30	0.35			
6	25JAN80	1040	25JAN80	1110	0-6C	6M-35	<1.0	84.0	24.0	8.0	4.0	<0.02	<0.03	0.10	0.15	0.02	0.03	0.30	0.35			
6	25JAN80	1540	25JAN80	1611	1-4C	6M-36	<1.0	44.0	25.0	8.0	3.0	<0.02	<0.03	0.10	0.15	0.02	0.03	0.30	0.35			
6	25JAN80	1540	25JAN80	1611	0-6C	6M-37	<1.0	71.0	26.0	8.0	3.0	<0.02	<0.03	0.10	0.15	0.02	0.03	0.30	0.35			
7	17MAR80	1215	17MAR80	1315	1-4C	6M-38	<1.0	24.0	79.0	14.0	6.0	0.02	0.07	0.44	0.89	0.10	0.13	1.58	NA			
7	17MAR80	1215	17MAR80	1315	0-6C	6M-39	<1.0	53.0	75.0	14.0	6.0	0.02	0.07	0.44	0.89	0.10	0.13	1.58	NA			
7	17MAR80	1800	17MAR80	1815	1-4C	6M-40	<1.0	28.0	100.0	18.0	15.0	0.03	0.08	0.39	0.70	0.08	0.13	1.40	1.40			
7	17MAR80	1800	17MAR80	1815	0-6C	6M-41	<1.0	53.0	95.0	23.0	22.0	0.03	0.08	0.56	1.17	0.12	0.23	2.19	2.19			
7	18MAR80	1240	18MAR80	1320	1-4C	6M-42	<1.0	31.0	160.0	23.0	22.0	0.03	0.08	0.56	1.17	0.12	0.23	2.19	2.19			
7	18MAR80	1240	18MAR80	1320	0-6C	6M-43	<1.0	65.0	110.0	18.0	35.0	0.03	0.05	0.45	0.89	0.10	0.18	1.70	1.70			
7	18MAR80	1800	18MAR80	1815	1-4C	6M-44	<1.0	87.0	83.0	16.0	25.0	0.02	0.03	0.35	0.73	0.08	0.13	1.34	1.34			
7	18MAR80	1800	18MAR80	1815	0-6C	6M-45	<1.0	71.0	64.0	14.0	28.0	<0.02	<0.03	0.31	0.61	0.08	0.12	1.15	1.17			
7	19MAR80	1500	19MAR80	1515	1-4C	6M-46	<1.0	55.0	55.0	12.0	22.0	0.02	0.03	0.30	0.52	0.07	0.08	0.99	0.99			
7	19MAR80	1500	19MAR80	1515	0-6C	6M-47	<1.0	52.0	52.0	14.0	19.0	0.02	0.03	0.27	0.51	0.06	0.10	0.99	0.99			
7	19MAR80	1500	19MAR80	1515	1-4C	6M-48	<1.0	51.0	51.0	14.0	16.0	0.02	0.05	0.24	0.48	0.05	0.08	0.92	0.92			
7	19MAR80	1500	19MAR80	1515	0-6C	6M-49	<1.0	47.0	47.0	10.0	14.0	0.02	0.05	0.24	0.48	0.05	0.08	0.92	0.92			
7	20MAR80	1250	20MAR80	1320	1-4C	6M-50	<1.0	83	40.0	10.0	11.0	0.02	0.05	0.24	0.48	0.05	0.08	0.92	0.92			
7	20MAR80	1250	20MAR80	1320	0-6C	6M-51	<1.0	73	40.0	10.0	11.0	0.02	0.05	0.24	0.48	0.05	0.08	0.92	0.92			
7	20MAR80	1250	20MAR80	1320	1-4C	6M-52	<1.0	17	40.0	17.0	6.0	<0.02	<0.03	0.19	0.37	0.04	0.06	0.66	0.71			
7	20MAR80	1250	20MAR80	1320	0-6C	6M-53	<1.0	66	37.0	17.0	6.0	<0.02	<0.03	0.19	0.37	0.04	0.06	0.66	0.71			
7	20MAR80	1250	20MAR80	1320	1-4C	6M-54	<1.0	18	34.0	10.0	9.0	<0.02	<0.03	0.19	0.37	0.05	0.07	0.68	0.73			
7	20MAR80	1250	20MAR80	1320	0-6C	6M-55	<1.0	70	29.0	10.0	5.0	<0.02	<0.03	0.16	0.40	0.03	0.05	0.64	0.66			
7	20MAR80	1250	20MAR80	1320	1-4C	6M-56	<1.0	75	28.0	10.0	5.0	<0.02	<0.03	0.16	0.40	0.03	0.05	0.64	0.66			
7	20MAR80	1250	20MAR80	1320	0-6C	6M-57	<1.0	75	28.0	10.0	5.0	<0.02	<0.03	0.16	0.40	0.03	0.05	0.64	0.66			
7	20MAR80	1250	20MAR80	1320	1-4C	6M-58	<1.0	75	28.0	10.0	5.0	<0.02	<0.03	0.16	0.40	0.03	0.05	0.64	0.66			
7	20MAR80	1250	20MAR80	1320	0-6C	6M-59	<1.0	75	28.0	10.0	5.0	<0.02	<0.03	0.16	0.40	0.03	0.05	0.64	0.66			
7	20MAR80	1250	20MAR80	1320	1-4C	6M-60	<1.0	75	28.0	10.0	5.0	<0.02	<0.03	0.16	0.40	0.03	0.05	0.64	0.66			
7	20MAR80	1250	20MAR80	1320	0-6C	6M-61	<1.0	75	28.0	10.0	5.0	<0.02	<0.03	0.16	0.40	0.03	0.05	0.64	0.66			
7	20MAR80	1250	20MAR80	1320	1-4C	6M-62	<1.0	75	28.0	10.0	5.0	<0.02	<0.03	0.16	0.40	0.03	0.05	0.64	0.66			
7	20MAR80	1250	20MAR80	1320	0-6C	6M-63	<1.0	75	28.0	10.0	5.0	<0.02	<0.03	0.16	0.40	0.03	0.05	0.64	0.66			
7	20MAR80	1250	20MAR80	1320	1-4C	6M-64	<1.0	75	28.0	10.0	5.0	<0.02	<0.03	0.16	0.40	0.03	0.05	0.64	0.66			
7	20MAR80	1250	20MAR80	1320	0-6C	6M-65	<1.0	75	28.0	10.0	5.0	<0.02	<0.03	0.16	0.40	0.03	0.05	0.64	0.66			
7	20MAR80	1250	20MAR80	1320	1-4C	6M-66	<1.0	75	28.0	10.0	5.0	<0.02	<0.03	0.16	0.40	0.03	0.05	0.64	0.66			
7	20MAR80	1250	20MAR80	1320	0-6C	6M-67	<1.0	75	28.0	10.0	5.0	<0.02	<0.03	0.16	0.40	0.03	0.05	0.64	0.66			
7	20MAR80	1250	20MAR80	1320	1-4C	6M-68	<1.0	75	28.0	10.0	5.0	<0.02	<0.03	0.16	0.40	0.03	0.05	0.64	0.66			
7	20MAR80	1250	20MAR80	1320	0-6C	6M-69	<1.0	75	28.0	10.0	5.0	<0.02	<0.03	0.16	0.40	0.03	0.05	0.64	0.66			
7	20MAR80	1250	20MAR80	1320	1-4C	6M-70	<1.0	75	28.0	10.0	5.0	<0.02	<0.03	0.16	0.40	0.03	0.05	0.64	0.66			
7	20MAR80	1250	20MAR80	1320	0-6C	6M-71	<1.0	75	28.0	10.0	5.0	<0.02	<0.03	0.16	0.40	0.03	0.05	0.64	0.66			
7	20MAR80	1250	20MAR80	1320	1-4C	6M-72	<1.0	75	28.0	10.0	5.0	<0.02	<0.03	0.16	0.40	0.03	0.05	0.64	0.66			
7	20MAR80	1250	20MAR80	1320	0-6C	6M-73	<1.0	75	28.0	10.0	5.0	<0.02	<0.03	0.16	0.40	0.03	0.05	0.64	0.66			
7	20MAR80	1250	20MAR80	1320	1-4C	6M-74	<1.0	75	28.0	10.0	5.0	<0.02	<0.03	0.16	0.40	0.03	0.05	0.64	0.66			
7	20MAR80	1250	20MAR80	1320	0-6C	6M-75	<1.0	75	28.0	10.0	5.0	<0.02	<0.03	0.16	0.40	0.03	0.05	0.64	0.66			
7	20MAR80	1250	20MAR80	1320	1-4C	6M-76	<1.0	75	28.0	10.0	5.0	<0.02	<0.03	0.16	0.40	0.03	0.05	0.64	0.66			
7	20MAR80	1250	20MAR80	1320	0-6C	6M-77	<1.0	75	28.0	10.0	5.0	<0.02	<0.03	0.16	0.40	0.03	0.05	0.64	0.66			
7	20MAR80	1250	20MAR80	1320	1-4C	6M-78	<1.0	75	28.0	10.0	5.0	<0.02	<0.03	0.16	0.40	0.03	0.05	0.64	0.66			
7	20MAR80	1250	20MAR80	1320	0-6C	6M-79	<1.0	75	28.0	10.0	5.0	<0.02	<0.03	0.16	0.40	0.03	0.05	0.64	0.66			
7	20MAR80	1250	20MAR80	1320	1-4C	6M-80	<1.0	75	28.0	10.0	5.0	<0.02	<0.03	0.16	0.40	0.03	0.05	0.64	0.66			
7	20MAR80	1250	20MAR80	1320	0-6C	6M-81	<1.0	75	28.0	10.0	5.0	<0.02	<0.03	0.16	0.40	0.03	0.05	0.64	0.66			
7	20MAR80	1250	20MAR80	1320	1-4C	6M-82	<1.0	75	28.0	10.0	5.0	<0.02	<0.03	0.16	0.40	0.03	0.05	0.64	0.66			
7	20MAR80	1250	20MAR80	1320	0-6C	6M-83	<1.0	75	28.0	10.0	5.0	<0.02	<0.03	0.16								

TASK 6 - ASSESSMENT OF DUT TRANSPORT - HYDROLOGIC AND SEDIMENT DATA

RAIN BEGINNING DATE-TIME			ENDING DATE-TIME	MLDC LABID	SOLIDS			CONCENTRATIONS OF DOT IN WATER (UG/L)						TOTAL DOT			
EVENT						SUS (MG/L)	VOL (%)	SUS (MG/L)	DDT	P,P	O,P	DDT	P,P	O,P	MIN	MAX	
7	3APR80	1007	3APR80 1047	67-162	6.0	16.0	26.0	8.0	< 1.0	< 0.02	< 0.03	0.11	0.19	0.02	0.04	0.36	0.41
7	3APR80	1007	3APR80 1047	67-163	1.0	71.0	21.0	.	.	.	.	.	.	.	.	.	.
INDIAN CREEK 4.5 - CENTERLINE ROAD																	
5	16JAN80	1423	18JAN80 1520	1-4C 6M-09	3.0	65.0	110.0	24.0	5.0	0.06	0.09	0.94	1.54	0.15	0.23	3.01	3.01
5	18JAN80	2045	18JAN80 2146	1-4C 6M-02	3.7	77.0	84.0	22.0	6.0	0.14	0.08	1.27	2.41	0.17	0.24	4.31	4.31
5	18JAN80	2245	19JAN80 2338	1-4C 6M-10	2.1	85.0	100.0	23.0	4.0	0.07	0.10	1.29	1.97	0.20	0.36	3.99	3.99
5	19JAN80	1322	19JAN80 235	1-4C 6M-11	4.2	35.0	95.0	23.0	9.0	0.04	0.06	0.87	1.42	0.13	0.21	2.73	2.73
5	19JAN80	1555	19JAN80 1642	1-4C 6M-12	0.8	9.4	44.0	16.0	2.0	0.06	0.07	1.12	1.71	0.17	0.29	3.42	3.42
6	22JAN80	1910	22JAN80 2015	1-4C 6M-38	<1.0	65.0	25.0	8.0	3.0	0.02	< 0.03	0.48	0.74	0.07	0.11	1.42	1.45
6	22JAN80	1910	22JAN80 2015	0.6C 6M-39	4.0	24.0	29.0	8.0	1.0	.	.	.	.	.	.	.	.
6	22JAN80	2350	23JAN80 30	1-4C 6M-40	<1.0	69.0	35.0	7.0	2.0	< 0.02	< 0.03	0.15	0.28	0.02	0.03	0.48	0.53
6	23JAN80	2350	23JAN80 30	0.6C 6M-41	9.0	10.0	42.0	9.0	3.0	0.03	0.05	0.51	0.77	0.08	0.13	1.57	1.57
6	23JAN80	400	23JAN80 430	1-4C 6M-42	<1.0	37.0	44.0	10.0	4.0	0.03	0.05	0.51	0.77	0.08	0.13	1.57	1.57
6	23JAN80	400	23JAN80 430	0.6C 6M-43	<1.0	78.0	49.0	8.0	5.0	.	.	.	.	.	.	.	.
6	23JAN80	710	23JAN80 730	1-4C 6M-44	<1.0	44.0	48.0	10.0	4.0	0.03	0.04	0.34	0.63	0.07	0.10	1.21	1.21
6	23JAN80	710	23JAN80 730	0.6C 6M-45	<1.0	92.0	48.0	9.0	4.0	0.03	0.04	0.34	0.63	0.07	0.10	1.21	1.21
6	23JAN80	1050	23JAN80 1110	1-4C 6M-46	<1.0	44.0	63.0	8.0	5.0	0.03	0.04	0.49	0.76	0.08	0.16	1.56	1.56
6	23JAN80	1050	23JAN80 1110	0.6C 6M-47	<1.0	67.0	51.0	8.0	6.0	.	.	.	.	.	.	.	.
6	24JAN80	1110	24JAN80 1138	1-4C 6M-48	<1.0	86.0	26.0	6.0	4.0	0.02	0.03	0.37	0.58	0.06	0.10	1.16	1.16
6	24JAN80	1110	24JAN80 1138	0.6C 6M-49	<1.0	54.0	32.0	8.0	4.0	0.02	0.03	0.37	0.58	0.06	0.10	1.16	1.16
6	24JAN80	1446	24JAN80 1501	1-4C 6M-50	<1.0	46.0	31.0	8.0	2.0	< 0.02	< 0.03	0.06	0.13	0.02	0.02	0.23	0.28
6	24JAN80	1446	24JAN80 1501	0.6C 6M-51	20	9.1	88.0	9.0	4.0	0.02	0.03	0.35	0.56	0.06	0.10	1.12	1.12
6	25JAN80	1034	25JAN80 1048	1-4C 6M-52	<1.0	36.0	51.0	6.0	2.0	0.02	0.03	0.35	0.56	0.06	0.10	1.12	1.12
6	25JAN80	1034	25JAN80 1048	0.6C 6M-53	<1.0	51.0	82.0	6.0	3.0	0.02	0.03	0.35	0.56	0.06	0.10	1.12	1.12
6	25JAN80	1541	25JAN80 1602	1-4C 6M-54	<1.0	82.0	18.0	5.0	< 1.0	< 0.02	0.03	0.25	0.46	0.05	0.07	0.86	0.88
6	25JAN80	1541	25JAN80 1602	0.6C 6M-55	<1.0	18.0	47.0	7.0	3.0	.	.	.	.	.	.	.	.
7	17MAR80	1400	17MAR80 1504	1-4C 67-20	7.0	20.0	110.0	18.0	11.0	0.03	.	0.53	1.08	0.10	0.18	1.92	1.92
7	17MAR80	1400	17MAR80 1504	0.6C 67-21	8.0	18.0	110.0	.	.	0.06	2.38	0.87	2.40	0.21	0.49	6.41	6.41
7	17MAR80	1730	17MAR80 1753	0.6C 67-23	11	20.0	120.0	.	.	0.03	0.07	0.41	0.92	0.09	0.17	1.69	1.69
7	18MAR80	155	18MAR80 318	1-4C 67-24	5.0	17.0	100.0	17.0	33.0	0.03	0.07	0.41	0.92	0.09	0.17	1.69	1.69
7	18MAR80	155	18MAR80 318	0.6C 67-25	3.0	24.0	100.0	.	.	.	.	.	.	.	.	.	.
7	18MAR80	715	18MAR80 734	1-4C 67-26	10	19.0	120.0	11.0	26.0	0.12	0.44	0.47	1.09	0.11	0.22	2.45	2.45
7	18MAR80	715	18MAR80 734	0.6C 67-27	3.0	30.0	87.0	.	.	< 0.02	0.04	0.29	0.48	0.06	0.12	0.99	1.01
7	18MAR80	1108	18MAR80 1132	1-4C 67-28	<1.0	.	68.0	15.0	22.0	< 0.02	0.04	0.29	0.48	0.06	0.12	0.99	1.01
7	19MAR80	1108	18MAR80 1132	0.6C 67-29	<1.0	.	56.0	.	.	.	.	.	.	.	.	.	.
7	19MAR80	1723	18MAR80 1740	1-4C 67-30	<1.0	.	53.0	14.0	24.0	< 0.02	0.34	0.23	0.39	0.05	0.08	1.09	1.11
7	19MAR80	1723	18MAR80 1740	0.6C 67-31	<1.0	.	50.0	12.0	15.0	0.29	0.52	0.21	0.39	0.06	0.11	1.58	1.58
7	19MAR80	55	19MAR80 121	1-4C 67-32	<1.0	.	49.0	12.0	15.0	0.03	0.05	0.17	0.33	0.04	0.05	0.67	0.67
7	19MAR80	55	19MAR80 121	0.6C 67-33	<1.0	.	46.0	.	.	0.03	0.05	0.17	0.33	0.04	0.05	0.67	0.67
7	19MAR80	645	19MAR80 722	1-4C 67-88	22	< 1.0	40.0	18.0	15.0	0.03	0.05	0.17	0.33	0.04	0.05	0.67	0.67
7	19MAR80	645	19MAR80 722	0.6C 67-89	84	< 1.0	39.0	.	.	.	.	.	.	.	.	.	.
7	19MAR80	1305	19MAR80 1335	1-4C 67-90	21	1.0	41.0	16.0	11.0	< 0.02	0.03	0.22	0.42	0.05	0.11	0.83	0.85
7	19MAR80	1305	19MAR80 1335	0.6C 67-91	88	8.0	40.0	.	.	.	.	.	.	.	.	.	.
7	19MAR80	1833	19MAR80 1900	1-4C 67-92	21	1.0	37.0	17.0	10.0	.	.	.	.	.	.	.	.
7	19MAR80	1833	19MAR80 1900	0.6C 67-93	86	< 1.0	38.0	.	.	.	.	.	.	.	.	.	.
7	20MAR80	140	20MAR80 209	1-4C 67-94	19	3.0	30.0	15.0	.	.	.	.	.	.	.	.	.
7	20MAR80	140	20MAR80 209	0.6C 67-95	120	30.0	32.0	.	.	.	.	.	.	.	.	.	.

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK 6 - ASSESSMENT OF DDT TRANSPORT - HYDROLOGIC AND SEDIMENT DATA

RAIN EVENT	BEGINNING DATE-TIME	ENDING DATE-TIME	MLOC LABID	SOLIDS			CONCENTRATIONS OF DDT IN WATER (UG/L)												TOTAL DDT	
				SUS			DISSOLVED FRACTION												MIN	MAX
				SUS	VDL (MG/L)	WOL (G)	O,P	P,P	O,P	P,P	O,P	P,P	O,P	P,P	O,P	P,P	O,P	P,P		
7	20MAR80	630	20MAR80	659	1-4C	67-96	23	1.0	31.0	16.0	10.0	0.02	0.03	0.14	0.24	0.03	0.04	0.50	0.50	
7	20MAR80	630	20MAR80	659	0.6C	67-97	120	8.0	27.0	16.0	< 1.0	< 0.02	< 0.03	0.14	0.27	0.03	0.05	0.49	0.54	
7	20MAR80	1400	20MAR80	1433	1-4C	67-98	5.0	8.0	24.0	16.0	< 1.0	< 0.02	< 0.03	0.14	0.27	0.03	0.05	0.49	0.54	
7	20MAR80	1400	20MAR80	1433	0.6C	67-99	86	1.0	24.0	16.0	< 1.0	< 0.02	< 0.03	0.14	0.27	0.03	0.05	0.49	0.54	
7	20MAR80	1840	20MAR80	1859	1-4C	67-100	<1.0	8.0	22.0	15.0	2.0	< 0.02	< 0.03	0.12	0.22	0.03	0.03	0.40	0.42	
7	20MAR80	1840	20MAR80	1859	0.6C	67-101	1.0	87.0	29.0	15.0	< 1.0	< 0.02	< 0.03	0.12	0.22	0.03	0.03	0.40	0.42	
7	23MAR80	953	23MAR80	1014	1-4C	67-128	3.0	3.0	78.0	15.0	55.0	< 0.02	< 0.03	0.12	0.22	0.03	0.03	0.40	0.42	
7	23MAR80	953	23MAR80	1014	0.6C	67-129	<1.0	9.0	85.0	15.0	< 1.0	< 0.02	< 0.03	0.12	0.22	0.03	0.03	0.40	0.42	
7	24MAR80	1110	24MAR80	1143	1-4C	67-130	1.0	40.0	63.0	11.0	< 1.0	< 0.02	< 0.03	0.12	0.22	0.03	0.03	0.40	0.42	
7	24MAR80	1110	24MAR80	1143	0.6C	67-131	5.0	40.0	58.0	11.0	< 1.0	< 0.02	< 0.03	0.12	0.22	0.03	0.03	0.40	0.42	
7	26MAR80	1100	26MAR80	1130	1-4C	67-150	1.0	12.0	28.0	14.0	15.0	< 0.02	< 0.03	0.06	0.13	0.02	0.02	0.23	0.28	
7	26MAR80	1100	26MAR80	1130	0.6C	67-151	<1.0	12.0	24.0	14.0	< 1.0	< 0.02	< 0.03	0.06	0.13	0.02	0.02	0.23	0.28	
7	26MAR80	1030	26MAR80	1112	1-4C	67-152	2.0	3.0	23.0	7.0	10.0	< 0.02	< 0.03	0.07	0.14	0.02	0.03	0.26	0.31	
7	26MAR80	1030	26MAR80	1112	0.6C	67-153	1.0	29.0	19.0	7.0	< 1.0	< 0.02	< 0.03	0.07	0.14	0.02	0.03	0.26	0.31	
7	31MAR80	1230	31MAR80	1305	1-4C	67-164	<1.0	29.0	23.0	8.0	8.0	< 0.02	< 0.03	0.10	0.19	0.03	0.03	0.38	0.40	
7	31MAR80	1230	31MAR80	1309	0.6C	67-165	1.0	60.0	28.0	8.0	< 1.0	< 0.02	< 0.03	0.10	0.19	0.03	0.03	0.38	0.40	
7	3APR80	1000	3APR80	1025	1-4C	67-166	1.0	25.0	21.0	8.0	2.0	< 0.02	< 0.03	0.14	0.25	0.03	0.05	0.47	0.52	
7	3APR80	1000	3APR80	1025	0.6C	67-167	<1.0	25.0	17.0	8.0	< 1.0	< 0.02	< 0.03	0.14	0.25	0.03	0.05	0.47	0.52	

FOOTNOTES:

- MINIMUM TOTAL DDTR CALCULATED BY SETTING ALL LESS THAN VALUES TO ZERO.
- MAXIMUM TOTAL DDTR CALCULATED BY SETTING ALL LESS THAN VALUES TO THEIR ABSOLUTE VALUE.
- SUSPENDED SOLIDS, <63U - NONFILTERABLE RESIDUE WHICH PASSED THROUGH A 63UM SIEVE BUT WAS RETAINED ON A GLASS FIBER FILTER PAD.
- VOLATILE SOLIDS, <63U - VOLATILE SUSPENDED SOLIDS RETAINED ON A GLASS FIBER FILTER PAD.
- DDT, <63U - NONFILTERABLE RESIDUE WHICH PASSED THROUGH A GLASS FIBER FILTER PAD BUT WAS RETAINED ON A 0.45UM MEMBRANE FILTER.
- MLOC - HORIZONTAL LOCATIONS
- 1-4C - REFERS TO A COMPOSITE SAMPLE OF DEPTHS 1 THRU 4 AND HORIZONTAL LOCATIONS LEFT, MIDDLE, AND RIGHT
- 0.60 - REFERS TO A COMPOSITE SAMPLE OF HORIZONTAL LOCATIONS LEFT, MIDDLE AND RIGHT AT 0.6 OF THE DEPTH.
- NA DENOTES P,P DDT NOT ANALYZED. TOTAL DDTR VALUES ARE CALCULATED ASSUMING P,P DDT=0

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK 6 - ASSESSMENT OF DDT TRANSPORT - HYDROLOGIC AND SEDIMENT DATA

RAIN BEGINNING EVENT DATE-TIME	ENDING DATE-TIME	MLDC LABID	SOLIDS				CONCENTRATIONS OF DDT IN WATER (UG/L)						TOTAL DDT				
			>63U		<63U		TOTAL FRACTION		DDT		OUD		TOTAL MIN	TOTAL MAX			
			SUS	VOL	SUS	VOL	O,P	P,P	O,P	P,P	O,P	P,P					
H-VILLE SPRING BRANCH 2.4 - DUDO ROAD																	
5	18JAN80 2100	18JAN80 2143	1-4C	6M-03	9.1	87.0	80.0	22.0	4.0	0.36	4.10	1.96	3.80	0.43	0.98	11.65	11.65
H-VILLE SPRING BRANCH 5.6 - PATTON ROAD																	
5	18JAN80 2215	18JAN80 2240	1-4C	6M-04	6.6	3.5	42.0	19.0	< 1.0	< 0.06	< 0.06	0.10	0.18	0.03	0.02	0.45	0.45
INDIAN CREEK - TRIANA																	
5	18JAN80 1500	18JAN80 1540	1-4C	6M-05	0.4	71.0	54.0	18.0	2.0	0.05	0.10	0.90	1.43	0.19	0.37	3.04	3.04
5	18JAN80 2010	18JAN80 2060	1-4C	6M-06	0.5	71.0	44.0	17.0	2.0	0.06	0.12	0.97	1.68	0.19	0.34	3.36	3.36
5	18JAN80 2301	18JAN80 2336	1-4C	6M-01	1.0	28.0	57.0	18.0	3.0	0.20	0.26	1.30	2.11	0.27	0.54	4.68	4.68
5	19JAN80 140	19JAN80 205	1-4C	6M-07	0.7	61.0	63.0	20.0	5.0	0.07	0.09	0.93	1.85	0.28	0.36	3.58	3.58
5	19JAN80 1600	19JAN80 1625	1-4C	6M-08	0.5	53.0	54.0	18.0	4.0	0.04	0.09	0.53	1.03	0.22	0.24	2.15	2.15
INDIAN CREEK 4.6 - CENTERLINE ROAD																	
5	18JAN80 1428	18JAN80 1520	1-4C	6M-09	3.0	65.0	110.0	24.0	5.0	0.20	1.72	1.70	2.65	0.35	0.84	7.46	7.46
5	18JAN80 2045	18JAN80 2148	1-4C	6M-02	3.7	77.0	84.0	22.0	8.0	0.20	2.99	2.26	4.28	0.45	1.01	11.19	11.19
5	18JAN80 2245	18JAN80 2336	1-4C	6M-10	2.1	85.0	100.0	24.0	4.0	0.13	2.59	1.52	3.16	0.30	0.74	8.44	8.44

FOOTNOTES:

A. THE ABOVE DATA WERE ANALYZED TO COMPARE WITH TOTAL VALUES CALCULATED BY ADDITION OF THE DISSOLVED AND SUSPENDED DDT VALUES.
B. MINIMUM TOTAL DDT CALCULATED BY SETTING ALL LESS THAN VALUES TO ZERO.

C. MAXIMUM TOTAL DDT CALCULATED BY SETTING ALL LESS THAN VALUES TO THEIR ABSOLUTE VALUE.

D. SUSPENDED SOLIDS, <63U - NONFILTERABLE RESIDUE WHICH PASSED THROUGH A 63UM SIEVE BUT WAS RETAINED ON A GLASS FIBER FILTER PAD.

E. VOLATILE SOLIDS, <63U - VOLATILE SUSPENDED SOLIDS RETAINED ON A GLASS FIBER FILTER PAD.

F. 0.45U, <63U - NONFILTERABLE RESIDUE WHICH PASSED THROUGH A GLASS FIBER FILTER PAD BUT WAS RETAINED ON A 0.45UM MEMBRANE FILTER.

G. MLDC - HORIZONTAL LOCATION:

1-4C - REFERS TO A COMPOSITE SAMPLE OF HORIZONTAL LOCATIONS LEFT, MIDDLE, AND RIGHT;
0.60 - REFERS TO A COMPOSITE SAMPLE OF HORIZONTAL LOCATIONS LEFT, MIDDLE AND RIGHT AT 0.6 OF THE DEPTH.

ENGINEERING AND ENVIRONMENTAL STUDY
OF DDT CONTAMINATION OF HUNTSVILLE
SPRING BRANCH, INDIAN CREEK, AND
ADJACENT LANDS AND WATERS,
WHEELER RESERVOIR, ALABAMA

TASK 7

ASSESSMENT OF DDT LEVELS OF SELECTED VERTEBRATES IN AND
ADJACENT TO WHEELER, WILSON, AND GUNTERSVILLE RESERVOIRS
(SPATIAL EXTENT OF CONTAMINATION)

Tennessee Valley Authority
Office of Natural Resources

August 1960

PREFACE

This document was prepared in support of the Engineering and Environmental Study of DDT contamination of Huntsville Spring Branch, Indian Creek, and Adjacent Lands and Waters, Wheeler Reservoir, Alabama, for the U.S. Corps of Engineers.

This document contains information produced in fulfillment of an interagency agreement between the U.S. Corps of Engineers and the Tennessee Valley Authority (TVA Contract No. TV-52305A).

CONTENTS

Worktask Description

1.0 Purpose	Page 1
2.0 Scope	Page 1
3.0 Sample Collection and Handling	Page 1
4.0 Sample Analysis	Page 4
Sample Location Maps	Appendix A
Raw Data Tabulations	Appendix B

TASK 7

WORKTASK DESCRIPTION

TASK 7

ASSESSMENT OF DDT LEVELS OF SELECTED VERTEBRATES IN AND ADJACENT TO WHEELER, WILSON, AND GUNTERVILLE RESERVOIRS (SPATIAL EXTENT OF CONTAMINATION)

1.0 Purpose

The purpose of this task is to define DDTR* concentrations in select mammalian, avian, and reptilian species common to mainstream reservoirs of the Tennessee River. In addition, this task documents DDTR levels in these vertebrate specimens at various geographical distances from a major contamination focal point (Huntsville Spring Branch).

2.0 Scope

This task encompasses shorelines and floodplains of Wheeler, Gunterville, and Wilson Reservoirs, including adjunct streams and wetlands.

3.0 Sample Collection and Handling

3.1 Types of Samples

3.1.1 Green herons were the primary avian targets. A minimum of five to an optimum of ten specimens were collected at each location with seven specimens being the preferred sample size. Samples consisted of all age/sex classes of summer (August through September, 1979) populations.

3.1.2 The short-tailed shrew and the muskrat were the primary mammalian targets. A minimum of five to an optimum of ten specimens were collected at each location with seven specimens being the preferred sample size.

*DDTR = DDT isomers and metabolites
-1-

Short-tailed shrew - Samples consisted of all age/sex classes of summer (August through September, 1979) populations. Shrew populations were scarce within floodplain sample locations; therefore, desired sample sizes were not obtained at all sites.

Muskrat - Samples consisted of all age/sex classes of summer (August through September, 1979) populations.

- 3.1.3 The snapping turtle and water snakes (Natrix sp.) were primary target specimens. A minimum of five to an optimum of ten specimens were collected at each location with seven specimens being the preferred sample size.

Snapping turtle - Samples consisted of all age/sex classes collected between August and September 1979.

Water snake (Natrix sp.) - Samples consisted of all age/sex classes of summer (August through September, 1979) populations. Because water snakes were not abundant, desired sample sizes were not obtained at all sites.

3.2 Sample Locations (see Appendix A)

Specimens were collected within a 1.5 mile radius as indicated in Appendix A or as proximal as possible. Emphasis was placed on specimens located at or near the reservoir-shoreline interphases within each sample location. Specimens located landward from water-land interphases were not considered desirable, with the exception of shrew populations.

3.2.1 Vertebrate Species (Six sample locations TRM 271-402)

Site I - Approximate TRM 271

Site II - Approximate TRM 299

Site IV - Approximate TRM 311

Site VII - Approximate TRM 324, upstream 4 miles from confluence
of Indian Creek and the Tennessee River (Huntsville
Spring Branch).

Site VIII-Approximate TRM 330

Site IX -Approximate TRM 402

3.3 Field Collection

3.3.1 Five to ten specimens each of the six species were collected
(trapped/shot) at designated sites. Heron samples were not
obtained beyond September 15 to decrease the probability of
sampling migrants. Mammal and reptile specimens were procured
before October 1, 1979.

3.4 Sample Handling

3.4.1 Each specimen collected was wrapped in paper and placed on ice in
the field and then transferred to a chest freezer in the laboratory.
Total length (mm) and weight (g) was recorded and individual specimens
labeled and placed in the laboratory freezer. Caution was exercised
to prevent contact with any plastic materials.

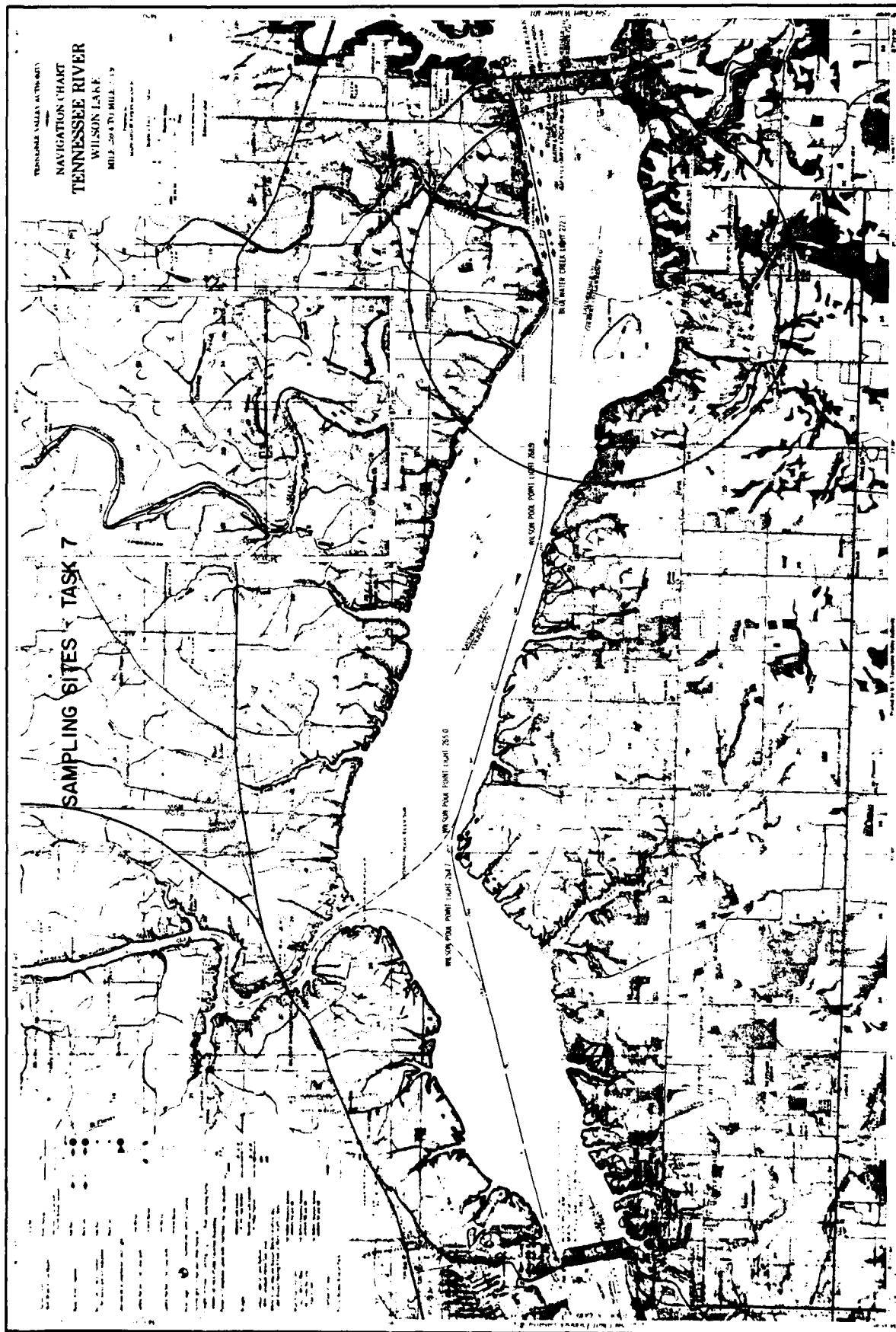
3.4.2 Each sample consisted of a portion of flesh (approximately 50 g)
collected from breast musculature. Derivations in sample weights
were necessary due to lack of breast musculature and/or size of
individuals. To approach 50 g sample weights for muskrats,
breast musculature and muscle tissue from all four legs were
utilized. To obtain 70 g samples from snapping turtles, muscle
tissues from the breast and ventral portions of the two front
legs were removed. The following body parts were not used with
shrew samples: head, tail, skin, feet, and internal viscera.
Muscle samples from snakes were limited to tissues between the

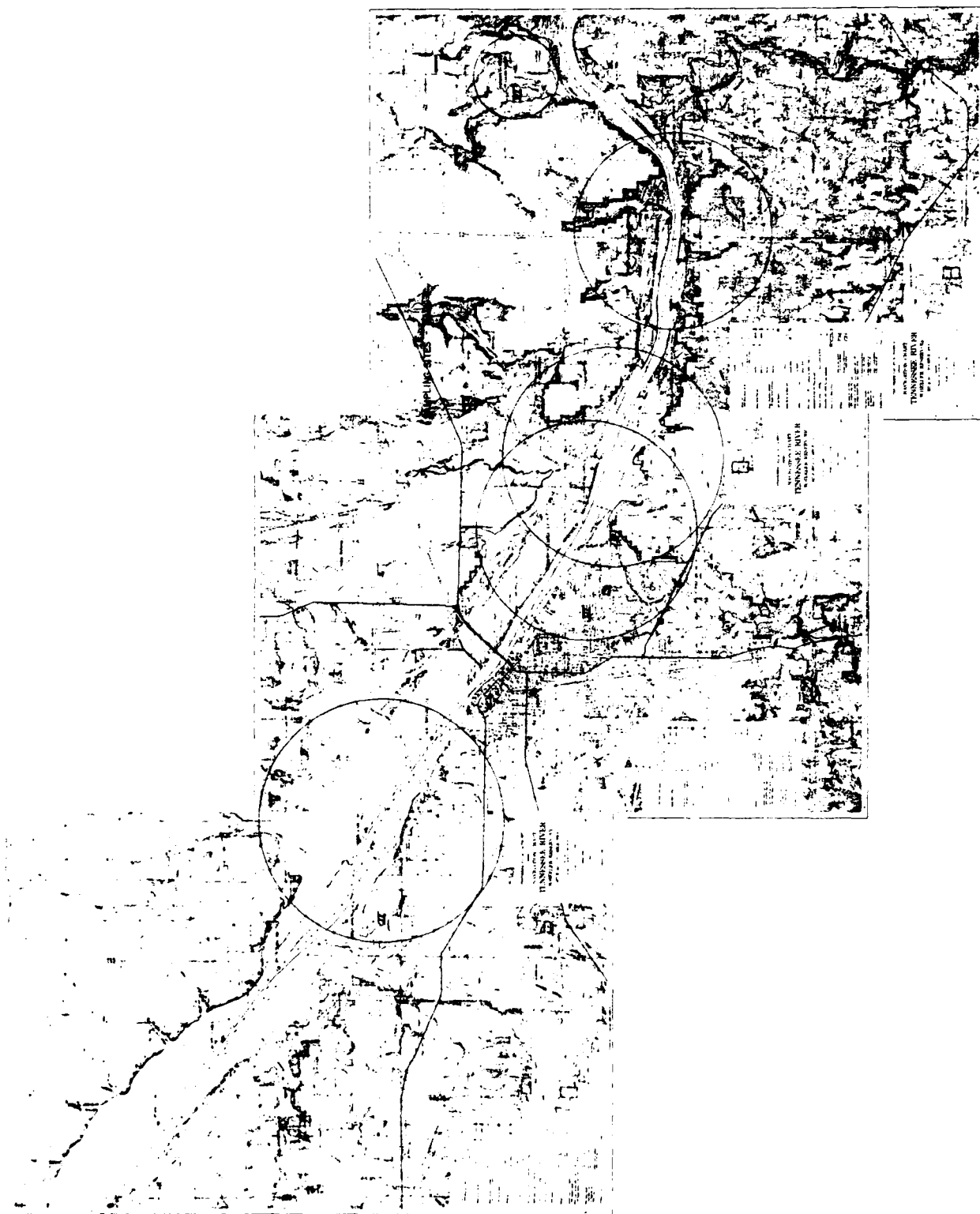
head and posterior anal opening. Internal viscera were not used for DDT, DDE, or DDT residue estimates of any vertebrate specimen. Each of the individual species samples from one collection site were weighed and wrapped separately in aluminum foil and properly labeled. A separate polyethylene ziplock bag was used for all species samples from a given collection site (5-10 samples, 1 bag). The remaining body from each specimen that had portions of flesh removed was weighed, labeled, wrapped in aluminum foil, and retained in a freezer to provide capabilities for determining total DDT residue (head, flesh, viscera).

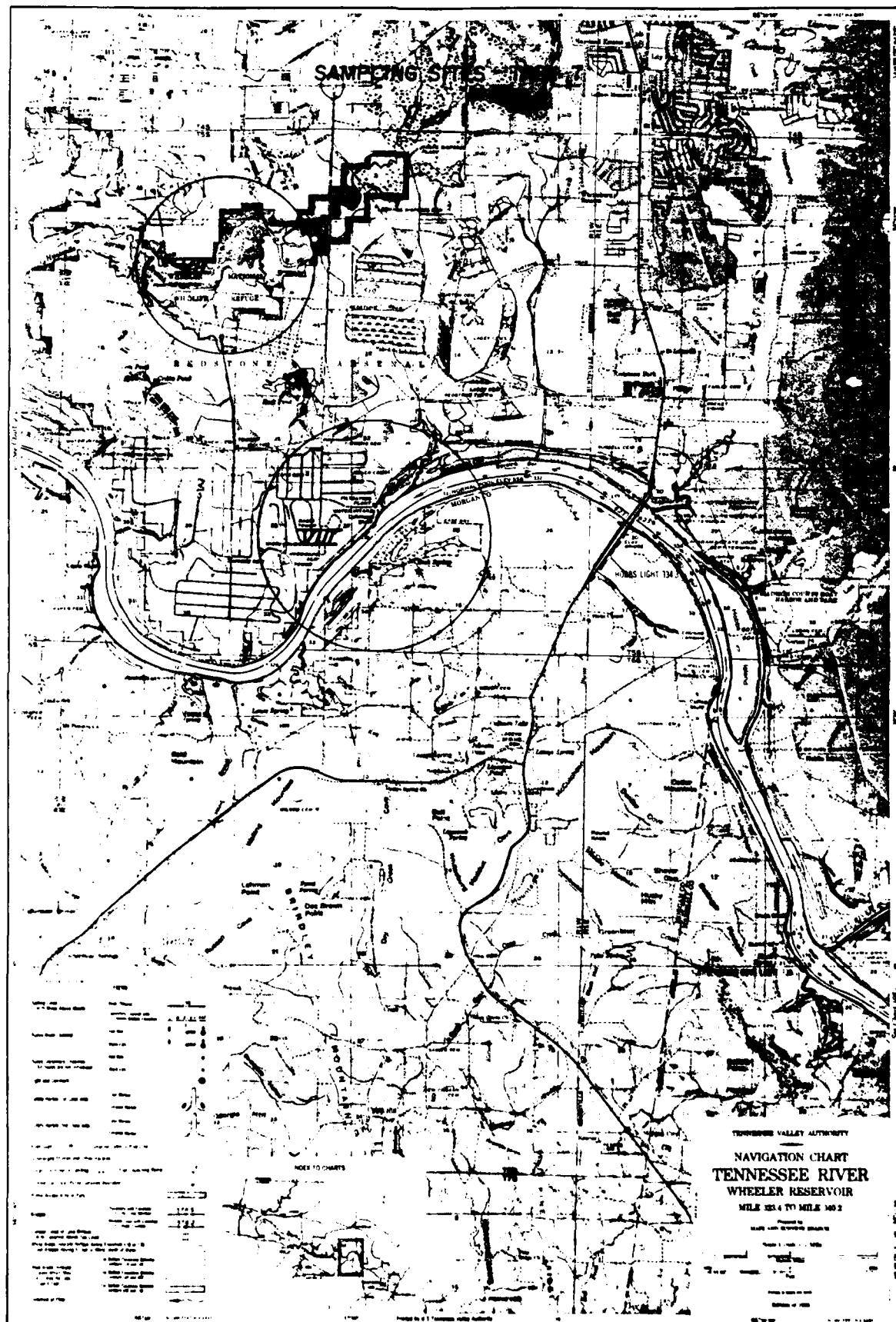
4.0 Sample Analysis

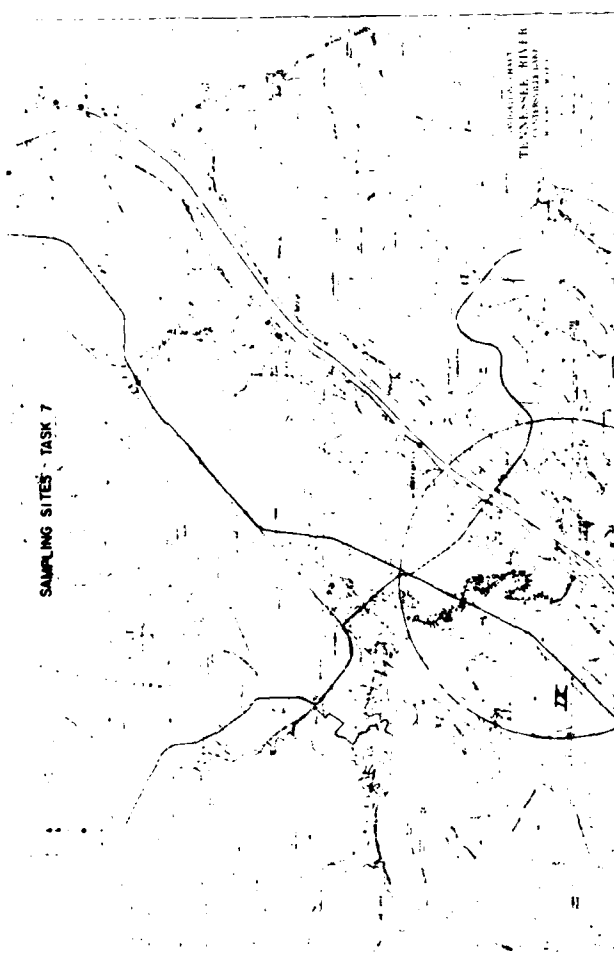
- 4.1 A 10-gram aliquot was removed from each approximate 50 g sample of each individual animal from each of the designated stations. The remaining muscle portion of individual animals was retained for future analysis except for shrews where most of the entire animal was utilized. Each individual sample was analyzed for DDT residues consisting of two isomers of each metabolite (DDT, DDE, DDD) for a total of six forms of DDT (see Appendix B for a listing of the data).
- 4.2 As necessary, the whole body, minus feathers and other select parts (feet, etc.), and less the portions from section 3.4.2, were blended and analyzed for DDTR. The retained 40 g fillet from section 3.5.1 was also analyzed for DDTR.
- 4.3 The DDT analysis was performed by the procedure specified in the Quality Assurance document. Approximately 10 percent of all analyses were replicated. Additionally, approximately 10 percent of all samples analyzed were split and analyzed by a second laboratory.

APPENDIX A
SAMPLE LOCATION MAPS









SAMPLING SITES - TASK 7



APPENDIX B
RAW DATA TABULATIONS

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK 7 - DDT LEVELS OF SELECTED VERTEBRATES IN AND ADJACENT TO WHEELER, WILSON, AND GUNTERSVILLE RESERVOIRS

SITE	DATE	LABID	ORGANISM	AGE	LENGTH (MM)	WEIGHT (G)	% LIPIDS	SAMPLE WEIGHT (G)	DDT-P,P (UG/G)	DDD-O,P (UG/G)	DDD-P,P (UG/G)	DOE-O,P (UG/G)	DOE-P,P (UG/G)	---TOTAL MINIMUM (UG/G)	DOE- MAXIMUM (UG/G)
1	1AUG79	7-011	GR. HERON	A	456.0	220.0	0.27	27.2	0.120	0.120	<0.020	<0.020	0.022	0.270	0.532
1	2AUG79	7-013	GR. HERON	I	453.0	240.0	0.17	26.5	<0.020	<0.020	<0.020	<0.010	<0.010	0.020	0.110
1	3AUG79	7-009	GR. HERON	A	450.0	210.0	0.32	28.7	0.058	0.048	<0.020	0.019	0.010	0.320	0.475
1	3AUG79	7-015	GR. HERON	I	435.0	210.0	0.90	14.7	0.320	0.150	<0.030	0.310	0.080	3.170	4.060*
1	3AUG79	7-033	SNAKE		615.0	50.0	0.12	14.2	<0.030	<0.030	<0.020	<0.020	0.020	0.140	0.270
1	3AUG79	7-034	SNAKE		630.0	95.0	0.16	21.1	<0.030	<0.030	<0.020	0.035	0.020	0.300	0.445
1	3AUG79	7-035	SNAKE		575.0	60.0	0.10	17.3	<0.030	<0.030	<0.020	0.065	0.127	0.227	0.227
1	3AUG79	7-036	SNAKE		850.0	395.0	0.11	49.2	<0.030	<0.030	<0.020	0.090	0.090	0.220*	0.220*
1	3AUG79	7-037	SNAKE		705.0	130.0	0.14	37.0	<0.020	<0.020	<0.020	0.042	0.042	0.132	0.132
1	3AUG79	7-038	SNAKE		635.0	70.0	0.06	18.2	<0.030	<0.030	<0.020	0.020	0.020	0.430	0.530
1	3AUG79	7-039	SNAKE		470.0	35.0	0.19	11.1	<0.030	<0.030	0.240	<0.020	<0.020	0.240	0.370
1	6AUG79	7-157	SHREW		94.0	10.0	1.04	2.6	<0.100	<0.080	<0.070	0.450	0.260	5.480	7.040
1	9AUG79	7-010	GR. HERON	I	465.0	260.0	0.48	33.4	<0.030	<0.030	<0.020	<0.020	0.049	0.049	0.179
1	9AUG79	7-012	GR. HERON	I	461.0	240.0	0.21	26.9	<0.020	<0.020	<0.020	0.072	0.072	0.162	0.162
1	9AUG79	7-014	GR. HERON	I	415.0	180.0	0.31	20.3	<0.020	<0.020	0.029	0.010	0.010	0.229	0.299
1	9AUG79	7-107	MUSKRAT	A	600.0	1260.0	0.16	50.1	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
1	9AUG79	7-113	MUSKRAT	A	610.0	1510.0	0.16	71.4	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
1	9AUG79	7-112	MUSKRAT	I	575.0	620.0	0.11	40.6	<0.030	<0.020	<0.020	<0.010	<0.010	0.000	0.110*
1	12AUG79	7-108	MUSKRAT	I	497.0	830.0	0.21	51.0	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
1	18AUG79	7-155	SHREW		72.0	3.9	2.96	1.4	<0.600	0.570	<0.400	<0.300	<0.400	16.970	18.670
1	17AUG79	7-156	SHREW		90.0	9.4	1.11	3.6	<0.030	0.097	<0.050	0.051	0.051	1.048	1.208
1	17AUG79	7-031	SNAKE		565.0	50.0	0.17	9.8	<0.030	<0.030	<0.020	<0.020	0.240	0.240	0.370
1	17AUG79	7-032	SNAKE		670.0	130.0	0.08	30.5	0.074	0.068	0.047	0.078	0.026	0.094	0.387
1	19AUG79	7-076	SN. TURTLE		530.0	204.0	0.08	50.4	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
1	19AUG79	7-077	SN. TURTLE		470.0	194.0	0.05	56.8	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
1	19AUG79	7-078	SN. TURTLE		600.0	499.0	0.04	77.0	<0.020	<0.020	<0.020	<0.010	<0.010	0.013	0.103
1	19AUG79	7-079	SN. TURTLE		540.0	283.0	0.10	74.0	<0.020	<0.020	<0.020	<0.010	<0.010	0.048	0.138
1	19AUG79	7-080	SN. TURTLE		612.0	487.0	0.02	82.6	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
1	20AUG79	7-158	SHREW		91.0	7.2	2.14	2.2	<0.100	1.160	<0.090	0.680	0.280	14.720	14.910
1	29AUG79	7-109	MUSKRAT	A	598.0	1470.0	0.32	79.4	0.100	<0.020	<0.020	<0.020	<0.010	0.100	0.180
1	29AUG79	7-111	MUSKRAT	A	570.0	1380.0	0.29	52.0	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
1	29AUG79	7-110	MUSKRAT	I	538.0	820.0	0.52	57.5	<0.020	<0.020	<0.020	<0.020	0.015	0.036	0.116
1	30AUG79	7-154	SHREW		72.0	3.4	5.77	1.0	1.040	<0.500	<0.400	<0.300	<0.300	1.040	2.840
1	9AUG79	7-153	SHREW		97.0	10.8	0.79	3.1	<0.200	0.650	<0.100	0.120	<0.100	3.390	3.790
2	9AUG79	7-047	SN. TURTLE		662.0	657.0	0.06	75.6	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
2	9AUG79	7-048	SN. TURTLE		668.0	4082.0	0.15	79.6	<0.020	<0.020	<0.020	<0.010	<0.010	0.048	0.128
2	9AUG79	7-051	SN. TURTLE		820.0	10659.0	0.06	79.0	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
2	9AUG79	7-052	SN. TURTLE		540.0	3175.0	0.05	76.4	<0.020	<0.020	<0.020	<0.010	<0.010	0.025	0.115
2	9AUG79	7-053	SN. TURTLE		782.0	8845.0	0.05	79.4	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
2	11AUG79	7-054	SN. TURTLE		790.0	8958.0	0.14	80.8	<0.020	<0.020	<0.020	<0.010	<0.010	0.028	0.118
2	14AUG79	7-163	SHREW		95.0	8.9	2.46	3.0	<0.200	1.370	<0.100	<0.100	<0.100	2.530	3.030
2	15AUG79	7-001	GR. HERON		54.0	220.0	.	30.0	0.012	0.009	<0.001	0.008	0.010	0.239	0.240
2	15AUG79	7-002	GR. HERON		50.5	260.0	.	36.5	0.022	0.017	<0.002	0.005	0.007	0.114	0.116*
2	15AUG79	7-003	GR. HERON		51.0	260.0	.	37.0	0.017	0.011	<0.001	0.005	0.005	0.092	0.093
2	15AUG79	7-004	GR. HERON		50.0	230.0	.	26.0	0.035	0.023	<0.001	0.004	0.010	0.322	0.323
2	15AUG79	7-005	GR. HERON		55.0	250.0	.	28.0	0.004	0.006	<0.001	0.003	0.004	0.207	0.208
2	15AUG79	7-006	GR. HERON		51.0	220.0	.	25.5	0.005	0.005	<0.001	0.004	0.002	0.061	0.061
2	15AUG79	7-007	GR. HERON		50.5	220.0	.	24.3	0.031	0.025	<0.001	0.026	0.021	0.373	0.374
2	15AUG79	7-008	GR. HERON		52.0	210.0	.	26.6	0.012	0.012	<0.001	0.012	0.009	0.175	0.176
2	15AUG79	7-199	SHREW		96.0	10.0	1.51	4.4	0.480	1.210	<0.040	0.130	0.110	4.630	4.670

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WHEELER RESERVOIR, ALABAMA

TASK 7 - DDT LEVELS OF SELECTED VERTEBRATES IN AND ADJACENT TO WHEELER, WILSON, AND GUNTERSVILLE RESERVOIRS

SITE	DATE	LABID	ORGANISM	AGE	LENGTH (MM)	WEIGHT (G)	% LIPIDS	SAMPLE WEIGHT (G)	DDT-O,P (UG/G)	DDT-P,P (UG/G)	DDD-O,P (UG/G)	DOE-O,P (UG/G)	DOE-P,P (UG/G)	---TOTAL MINIMUM (UG/G)	DDTR MAXIMUM (UG/G)
2	15AUG79	7-161	SHREW		93.0	10.0	4.59	3.6	0.830	1.990	<0.050	0.180	0.180	5.820	9.050
2	15AUG79	7-168	SHREW		90.0	6.8	2.74	2.5	1.230	1.890	<0.080	0.150	0.310	12.4	16.060
2	15AUG79	7-093	SHREW		87.0	90.0	0.15	26.1	0.019	<0.020	<0.020	<0.010	<0.010	0.058	0.467
2	15AUG79	7-094	SHREW		880.0	110.0	0.17	29.4	0.013	<0.020	<0.020	<0.010	<0.010	0.034	0.117
2	16AUG79	7-160	SHREW		92.0	6.4	0.63	2.4	0.280	0.330	<0.080	0.290	2.940	3.840	3.980
2	16AUG79	7-162	SHREW		95.0	9.6	0.72	3.8	<0.100	<0.100	<0.100	<0.080	<0.090	0.130	0.600
2	17AUG79	7-165	SHREW		87.0	7.6	1.59	2.6	0.340	0.660	<0.100	<0.100	<0.100	2.620	4.050
2	17AUG79	7-055	SN. TURTLE		755.0	7654.0	0.05	77.0	<0.020	<0.020	<0.020	<0.010	<0.022	0.022	0.112
2	18AUG79	7-166	SHREW		90.0	11.0	0.16	3.6	0.110	<0.070	<0.050	<0.040	<0.050	0.410	0.620
2	18AUG79	7-167	SHREW		82.0	7.8	1.10	2.6	0.530	0.600	<0.070	<0.060	<0.010	4.350	5.480
2	20AUG79	7-131	MUSKRAT	A	551.0	1030.0	0.18	49.4	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
2	20AUG79	7-132	MUSKRAT	A	590.0	1290.0	0.36	54.8	0.030	<0.030	<0.030	<0.020	<0.010	0.040	0.140*
2	20AUG79	7-130	MUSKRAT	I	499.0	800.0	0.50	41.8	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
2	20AUG79	7-134	MUSKRAT	I	535.0	890.0	0.12	51.4	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
2	20AUG79	7-092	SHREW		834.0	210.0	0.07	38.6	<0.020	<0.020	<0.020	<0.010	<0.010	0.270	0.360
2	20AUG79	7-095	SHREW		752.0	160.0	0.05	41.3	<0.020	<0.020	<0.020	<0.010	<0.010	0.180	0.270
2	22AUG79	7-164	SHREW		85.0	7.4	0.19	2.6	0.100	<0.100	<0.070	<0.060	<0.010	0.120	0.510
2	23AUG79	7-049	SN. TURTLE		693.0	5896.0	<0.05	78.0	<0.020	<0.020	<0.020	<0.010	<0.010	0.017	0.107
2	23AUG79	7-050	SN. TURTLE		568.0	3175.0	<0.05	75.6	<0.030	<0.030	<0.030	<0.020	<0.010	0.080	0.190*
2	27AUG79	7-133	MUSKRAT	A	558.0	1140.0	<0.05	50.2	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
2	27AUG79	7-135	MUSKRAT	I	489.0	830.0	0.18	37.2	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
2	27AUG79	7-090	SHREW		1074.0	340.0	0.04	51.2	0.063	0.053	<0.020	<0.020	<0.010	0.000	0.100
2	6SEP79	7-129	MUSKRAT	A	550.0	998.0	0.28	54.0	<0.020	<0.020	<0.020	<0.010	<0.010	1.129	1.169
2	6SEP79	7-091	SHREW		405.0	25.0	0.07	6.0	<0.040	<0.040	<0.030	<0.020	<0.010	0.000	0.100
2	6SEP79	7-096	SHREW		480.0	25.0	0.12	8.0	<0.050	<0.050	<0.040	<0.030	<0.030	0.031	0.191
2	6SEP79	7-097	SHREW		470.0	30.0	0.13	9.4	<0.040	<0.040	<0.030	<0.020	<0.020	0.130	0.330
2	6SEP79	7-098	SHREW		690.0	120.0	0.09	35.2	<0.020	<0.020	<0.020	<0.010	<0.010	0.085	0.225
2	6SEP79	7-099	SHREW		980.0	745.0	0.12	72.8	<0.020	<0.020	<0.020	<0.010	<0.010	0.130	0.253
4	6AUG79	7-019	GR. HERON	A	442.0	245.0	0.15	25.2	<0.020	<0.020	<0.020	<0.010	<0.010	0.110	0.200
4	6AUG79	7-020	GR. HERON	A	450.0	195.0	0.61	19.3	<0.020	<0.020	<0.020	<0.010	<0.010	0.960	1.224
4	7AUG79	7-018	GR. HERON	I	430.0	180.0	1.23	19.2	<0.020	<0.020	<0.020	<0.010	<0.010	0.330	0.449
4	7AUG79	7-120	MUSKRAT	A	604.0	1420.0	1.06	67.0	0.084	<0.030	<0.030	0.073	0.044	0.500	0.761
4	9AUG79	7-040	SN. TURTLE		560.0	3855.0	0.06	76.8	<0.020	<0.020	<0.020	<0.010	<0.010	0.016	0.106
4	9AUG79	7-016	GR. HERON	A	476.0	225.0	0.57	28.4	<0.020	<0.020	<0.020	<0.020	<0.020	0.400	0.575
4	9AUG79	7-017	GR. HERON	I	464.0	265.0	2.97	28.1	<0.020	<0.020	<0.020	0.033	0.027	0.470	0.635
4	9AUG79	7-122	MUSKRAT	A	612.0	1580.0	0.71	50.6	<0.020	<0.020	<0.020	<0.010	<0.010	0.530	0.590
4	13AUG79	7-123	MUSKRAT	A	550.0	1320.0	0.66	103.4	0.035	<0.020	<0.020	<0.020	<0.010	0.074	0.144
4	13AUG79	7-125	MUSKRAT	A	620.0	1640.0	0.31	58.4	<0.020	<0.020	<0.020	<0.010	<0.010	0.030	0.135
4	13AUG79	7-127	MUSKRAT	A	547.0	1140.0	0.14	52.1	<0.020	<0.020	<0.020	<0.010	<0.010	0.024	0.114
4	13AUG79	7-121	MUSKRAT	I	462.0	555.0	0.44	32.1	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
4	13AUG79	7-124	MUSKRAT	I	550.0	900.0	0.73	45.6	0.072	<0.020	<0.020	<0.010	<0.010	0.000	0.100
4	13AUG79	7-126	MUSKRAT	I	440.0	545.0	0.28	32.0	<0.020	<0.020	<0.020	<0.010	<0.010	0.150	0.296
4	13AUG79	7-128	MUSKRAT	I	475.0	765.0	0.21	50.2	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
4	20AUG79	7-180	SHREW		95.0	12.0	1.54	3.0	<0.090	<0.060	<0.060	<0.050	<0.010	0.980	1.310
4	24AUG79	7-041	SN. TURTLE		900.0	16149.0	0.14	74.4	<0.020	<0.020	<0.020	<0.010	<0.010	0.097	0.177
4	24AUG79	7-042	SN. TURTLE		520.0	1984.6	<0.05	57.0	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
4	24AUG79	7-043	SN. TURTLE		510.0	1927.0	0.05	56.4	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
4	24AUG79	7-044	SN. TURTLE		962.0	9411.0	0.06	76.0	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
4	24AUG79	7-045	SN. TURTLE		500.0	2494.0	<0.05	64.2	<0.020	<0.020	<0.020	<0.010	<0.010	0.300	0.360
4	24AUG79	7-046	SN. TURTLE		613.0	5443.0	<0.05	73.8	<0.020	<0.020	<0.020	<0.010	<0.010	0.030	0.120
4	24AUG79	7-046	SN. TURTLE		613.0	5443.0	<0.05	73.8	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100

ENGINEERING AND ENVIRONMENTAL STUDY OF DDT CONTAMINATION
HUNTSVILLE SPRING BRANCH, INDIAN CREEK, AND ADJACENT LANDS AND WATERS
WHEELER RESERVOIR, ALABAMA

TASK 7 - DDT LEVELS OF SELECTED VERTEBRATES IN AND ADJACENT TO WHEELER, WILSON, AND GUNTERSVILLE RESERVOIRS

SITE	DATE	LABID	ORGANISM	AGE	LENGTH (MM)	WEIGHT (G)	% LIPIDS	SAMPLE CONCENTRATIONS OF DDT MEASURED IN VERTEBRATES								TOTAL		DDT-MAXIMUM (UG/G)
								DDT-O,P (UG/G)	DDT-P,P (UG/G)	DDD-O,P (UG/G)	DDD-P,P (UG/G)	DDE-O,P (UG/G)	DDE-P,P (UG/G)	DDT-O,P (UG/G)	DDT-P,P (UG/G)	MINIMUM (UG/G)	MAXIMUM (UG/G)	
4	29AUG79	7-181	SHREW		97.0	11.4	1.40	0.080	0.430	0.040	0.094	0.120	2.230	0.120	0.094	2.954	2.994	
7	UNK79	7-022	GR. HERON	I	458.0	265.0	0.22	0.020	0.068	0.170	1.300	0.170	1.120	0.170	1.300	2.628	2.648	
7	UNK79	7-029	GR. HERON	I	455.0	215.0	0.07	0.020	0.020	0.020	0.075	0.010	0.052	0.010	0.075	0.127	0.197	
7	UNK79	7-058	SN. TURTLE		800.0	7937.0	0.06	0.020	0.020	0.020	0.035	0.010	0.240	0.010	0.035	0.275	0.345	
7	UNK79	7-100	SHREW		1030.0	340.0	0.09	0.020	0.054	0.051	0.350	0.058	1.490	0.058	0.350	2.003	2.023	
7	UNK79	7-102	SHREW		870.0	340.0	0.17	0.040	0.050	0.080	0.590	0.050	3.230	0.050	0.590	4.040	4.040*	
7	UNK79	7-103	SHREW		350.0	15.0	0.14	0.020	0.020	0.020	0.460	0.093	2.480	0.093	0.460	3.033	3.333	
7	UNK79	7-104	SHREW		643.0	100.0	0.18	0.020	0.020	0.020	0.073	0.021	0.480	0.021	0.073	0.594	0.634	
7	UNK79	7-105	SHREW		630.0	90.0	0.18	0.020	0.020	0.020	0.020	0.039	0.039	0.039	0.039	0.129	0.129	
7	3JUL79	7-030	GR. HERON	I	444.0	210.0	1.02	0.250	0.020	2.510	10.9	1.710	7.350	1.710	10.9	22.720	22.740	
7	1AUG79	7-028	GR. HERON	A	438.0	280.0	0.12	0.020	0.052	0.060	0.280	0.044	0.480	0.044	0.280	0.916	0.936	
7	1AUG79	7-024	GR. HERON	I	450.0	210.0	0.92	0.020	0.050	0.240	1.950	0.320	2.020	0.320	1.950	4.580	4.610*	
7	1AUG79	7-025	GR. HERON	I	438.0	180.0	0.56	0.020	0.060	0.080	0.860	0.140	1.250	0.140	0.860	2.390	2.410	
7	1AUG79	7-026	GR. HERON	I	438.0	180.0	0.56	0.020	0.060	0.080	0.860	0.140	1.250	0.140	0.860	2.390	2.410	
7	1AUG79	7-027	GR. HERON	I	452.0	235.0	0.19	0.020	0.020	0.037	0.220	0.052	0.810	0.052	0.220	1.119	1.119	
7	2AUG79	7-183	SHREW		95.0	11.4	0.64	0.020	0.150	0.049	0.370	0.086	0.350	0.086	0.370	1.005	1.025	
7	3AUG79	7-021	GR. HERON	A	457.0	245.0	0.26	0.020	0.160	0.020	3.230	0.100	4.42	0.100	3.230	50.230	50.630	
7	3AUG79	7-059	SN. TURTLE		962.0	10886.0	0.07	0.020	0.020	0.020	2.010	0.400	3.590	0.400	2.010	6.160	6.200	
7	3AUG79	7-061	SN. TURTLE		630.0	5102.0	0.05	0.020	0.020	0.020	0.040	0.010	0.430	0.010	0.040	0.560	0.560	
7	7AUG79	7-056	SN. TURTLE		913.0	9411.0	0.05	0.020	0.020	0.020	0.039	0.010	0.520	0.010	0.039	0.630	0.630	
7	7AUG79	7-060	SN. TURTLE		750.0	7597.0	0.05	0.020	0.020	0.033	0.093	0.010	0.780	0.010	0.093	0.906	0.956	
7	8AUG79	7-023	GR. HERON	I	438.0	250.0	0.22	0.020	0.020	0.250	0.490	0.120	0.540	0.120	0.490	1.400	1.440	
7	8AUG79	7-057	SN. TURTLE		735.0	8164.0	0.12	0.020	0.020	0.020	0.020	0.010	0.130	0.010	0.020	0.130	0.130	
7	22AUG79	7-106	SHREW		1075.0	745.0	0.11	0.020	0.020	0.047	0.140	0.011	0.060	0.011	0.140	0.430	0.500	
7	25AUG79	7-146	MUSKRAT	A	578.0	1240.0	0.10	0.020	0.061	0.020	0.036	0.010	0.074	0.010	0.036	0.171	0.171	
7	25AUG79	7-142	MUSKRAT	I	460.0	650.0	0.13	0.020	0.025	0.020	0.020	0.010	0.015	0.010	0.020	0.040	0.110	
7	25AUG79	7-143	MUSKRAT	I	350.0	280.0	0.13	0.040	0.025	0.030	0.110	0.020	0.054	0.020	0.110	0.110	0.110	
7	25AUG79	7-144	MUSKRAT	I	505.0	780.0	0.25	0.020	0.110	0.020	0.059	0.010	0.059	0.010	0.059	0.228	0.278	
7	25AUG79	7-145	MUSKRAT	I	542.0	900.0	0.14	0.020	0.066	0.020	0.030	0.010	0.054	0.010	0.030	0.130	0.180	
7	25AUG79	7-147	MUSKRAT	I	506.0	830.0	0.17	0.020	0.036	0.020	0.027	0.010	0.023	0.010	0.027	0.086	0.136	
7	25AUG79	7-149	MUSKRAT	I	380.0	300.0	0.09	0.050	0.040	0.040	0.020	0.030	0.020	0.020	0.030	0.000	0.200	
7	27AUG79	7-184	SHREW		96.0	14.6	1.22	0.540	25.5	0.100	3.000	0.090	55.8	0.090	3.000	84.040	85.030	
7	25SEP79	7-101	SHREW		1260.0	940.0	0.17	0.020	0.084	0.130	0.520	0.055	1.710	0.055	0.520	2.499	2.519	
7	11OCT79	7-182	SHREW		104.0	14.4	0.89	0.200	2.330	0.100	0.390	0.100	8.700	0.100	0.390	11.420	11.820	
8	UNK79	7-038	GR. HERON	I	408.0	210.0	0.85	0.030	0.070	0.380	1.420	0.430	2.750	0.430	1.420	5.050	5.080*	
8	UNK79	7-169	SHREW		92.0	13.2	2.20	0.310	0.280	0.040	0.030	0.120	0.770	0.120	0.030	1.480	1.550	
8	UNK79	7-072	SN. TURTLE		480.0	1927.0	0.12	0.020	0.020	0.020	0.020	0.010	0.010	0.010	0.020	0.000	0.100	
8	UNK79	7-073	SN. TURTLE		832.0	7654.0	0.08	0.020	0.020	0.020	0.020	0.010	0.010	0.010	0.020	0.000	0.100	
8	UNK79	7-074	SN. TURTLE		603.0	3231.0	0.05	0.020	0.020	0.020	0.020	0.010	0.010	0.010	0.020	0.000	0.100	
8	BAUG79	7-176	SHREW		100.0	9.4	0.04	0.090	0.080	0.060	0.050	0.050	0.050	0.050	0.050	0.000	0.100	
8	9AUG79	7-037	GR. HERON	I	482.0	305.0	0.29	0.020	0.020	0.020	0.020	0.010	0.010	0.010	0.020	0.000	0.100	
8	15AUG79	7-036	GR. HERON	A	448.0	245.0	0.44	0.020	0.020	0.020	0.020	0.010	0.010	0.010	0.020	0.022	0.112	
8	15AUG79	7-114	MUSKRAT	A	500.0	1180.0	0.75	0.080	0.030	0.020	0.020	0.020	0.010	0.020	0.020	0.080	0.180*	
8	15AUG79	7-115	MUSKRAT	I	435.0	502.0	0.20	0.020	0.020	0.020	0.020	0.010	0.010	0.010	0.020	0.000	0.100	
8	15AUG79	7-116	MUSKRAT	I	450.0	550.0	0.14	0.020	0.020	0.020	0.020	0.010	0.010	0.010	0.020	0.000	0.100	
8	15AUG79	7-117	MUSKRAT	I	444.0	420.0	0.14	0.020	0.020	0.020	0.020	0.010	0.010	0.010	0.020	0.000	0.100	
8	15AUG79	7-118	MUSKRAT	I	398.0	316.0	0.41	0.032	0.030	0.020	0.020	0.020	0.010	0.020	0.020	0.032	0.132	
8	15AUG79	7-119	MUSKRAT	I	488.0	665.0	0.28	0.047	0.020	0.020	0.020	0.010	0.010	0.010	0.020	0.047	0.127	
8	15AUG79	7-081	SHREW		790.0	80.0	0.06	0.020	0.020	0.020	0.020	0.010	0.010	0.010	0.020	0.000	0.100	

TASK 7 - DDT LEVELS OF SELECTED VERTEBRATES IN AND ADJACENT TO WHEELER, WILSON, AND GUNTERSVILLE RESERVOIRS

SITE	DATE	LABID	ORGANISM	AGE	LENGTH (MM)	WEIGHT (G)	LIPIDS	SAMPLE WEIGHT (G)	CONCENTRATIONS OF DDT MEASURED IN VERTERATES				TOTAL		DOTr----
									DOT-O,P (UG/G)	DOT-T,P,P (UG/G)	DDD-O,P (UG/G)	DDD-T,P,P (UG/G)	DOE-O,P (UG/G)	DOE-T,P,P (UG/G)	
6	17AUG79	7-035	GR. HERON	A	442.0	205.0	0.69	20.9	0.200	0.450	<0.020	0.059	0.200	0.949	0.989
8	17AUG79	7-034	GR. HERON	I	422.0	170.0	0.56	14.5	<0.020	<0.020	<0.030	<0.020	0.099	0.099	0.209
8	17AUG79	7-173	SHREW		77.0	3.0	1.55	1.2	<0.200	<0.200	<0.100	<0.100	0.380	0.380	1.180
8	17AUG79	7-175	SHREW		75.0	3.0	0.24	1.0	<0.300	<0.300	<0.200	<0.200	<0.200	0.000	1.400
8	19AUG79	7-178	SHREW		85.0	4.3	0.32	1.1	<0.200	<0.200	<0.200	<0.200	<0.100	0.000	1.000
8	21AUG79	7-033	GR. HERON	A	412.0	255.0	0.17	28.4	<0.030	<0.030	<0.030	<0.020	0.170	0.170	0.200
8	22AUG79	7-031	GR. HERON	I	422.0	215.0	0.54		0.240	0.240	1.210	0.900	4.470	12.180	12.180
8	22AUG79	7-082	SHREW		785.0	260.0	0.40	52.8	<0.020	<0.020	<0.020	<0.010	0.010	0.010	0.100
8	23AUG79	7-032	GR. HERON	I	452.0	270.0	0.42	26.2	<0.020	<0.020	0.370	0.074	0.470	1.005	1.045
6	23AUG79	7-177	SHREW		101.0	11.4	0.07	4.1	<0.060	<0.060	<0.050	<0.040	<0.040	0.000	0.290
8	24AUG79	7-170	SHREW		93.0	11.4	0.13	4.0	0.120	<0.060	<0.050	<0.040	0.062	0.182	0.372
8	27AUG79	7-179	SHREW		76.0	3.2	1.95	1.4	<0.400	<0.400	<0.300	<0.200	0.450	1.950	1.950
8	28AUG79	7-075	SN. TURTL		705.0	6803.0	0.09	75.0	<0.020	<0.020	<0.020	<0.010	0.010	0.010	0.310
6	25EPT79	7-171	SHREW		75.0	2.8	3.92	1.0	0.020	0.020	<0.020	<0.010	0.031	0.031	0.121
8	25EPT79	7-071	SN. TURTL		895.0	11566.0	<0.05	76.0	<0.020	<0.020	<0.020	<0.020	0.220	0.260	0.100
8	25EPT79	7-172	SHREW		80.0	5216.0	<0.05	74.2	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
8	12SEP79	7-174	SHREW		75.0	4.0	0.64	1.4	<0.200	<0.200	<0.100	<0.100	0.240	0.240	0.940
9	-UNK79	7-041	GR. HERON	A	454.0	280.0	0.32	17.8	<0.500	<0.500	<0.400	<0.300	<0.300	0.000	2.300
9	-UNK79	7-045	GR. HERON	I	444.0	210.0	0.73	27.8	<0.020	<0.020	<0.020	<0.010	0.058	0.058	0.148
9	-UNK79	7-136	MUSKRAT	A	520.0	925.0	0.19	19.1	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
9	-UNK79	7-137	MUSKRAT	A	580.0	1420.0	0.26	52.4	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
9	-UNK79	7-138	MUSKRAT	A	518.0	855.0	0.11	101.2	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
9	-UNK79	7-139	MUSKRAT	A	570.0	1260.0	0.41	56.9	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
9	-UNK79	7-140	MUSKRAT	A	520.0	1020.0	0.14	52.2	0.037	<0.020	<0.020	<0.100	<0.100	0.037	0.297
9	-UNK79	7-141	MUSKRAT	A	604.0	950.0	0.07	50.4	<0.020	<0.020	<0.020	<0.100	<0.100	0.000	0.280
9	-UNK79	7-150	SHREW		100.0	14.0	1.97	4.2	<0.020	<0.020	<0.020	<0.100	<0.100	0.000	0.280
9	-UNK79	7-151	SHREW		82.0	8.2	1.82	2.2	<0.300	0.130	<0.040	0.220	0.630	1.150	1.230
9	-UNK79	7-152	SHREW		106.0	13.2	0.81	5.4	<0.100	<0.100	<0.070	<0.200	<0.100	0.310	0.600
9	-UNK79	7-063	SN. TURTL		842.0	9185.0	0.10	72.2	<0.030	<0.030	<0.030	<0.020	0.210	0.310	0.600
9	-UNK79	7-065	SN. TURTL		640.0	5102.0	0.09	81.6	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
9	-UNK79	7-066	SN. TURTL		822.0	7654.0	0.14	75.0	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
9	-UNK79	7-067	SN. TURTL		655.0	4989.0	0.16	71.6	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
9	-UNK79	7-068	SN. TURTL		805.0	7931.0	<0.05	78.2	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
9	-UNK79	7-069	SN. TURTL		852.0	8901.0	0.07	74.6	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
9	-UNK79	7-083	SNAKE		994.0	400.0	0.18	56.8	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
9	-UNK79	7-084	SNAKE		1060.0	420.0	0.07	53.4	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
9	-UNK79	7-085	SNAKE		550.0	80.0	0.10	17.9	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
9	-UNK79	7-086	SNAKE		1050.0	250.0	0.11	63.5	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
9	-UNK79	7-087	SNAKE		850.0	110.0	0.11	28.2	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
9	-UNK79	7-088	SNAKE		525.0	50.0	0.16	13.6	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
9	-UNK79	7-089	SNAKE		567.0	70.0	0.12	18.2	<0.040	<0.030	<0.040	<0.030	<0.020	0.000	0.180*
9	23AUG79	7-042	GR. HERON	A	450.0	225.0	0.65	28.0	<0.020	<0.020	<0.020	<0.010	0.100	0.100	0.210
9	23AUG79	7-044	GR. HERON	A	475.0	280.0	0.88	29.5	<0.030	<0.030	<0.020	<0.020	0.080	0.080	0.210
9	23AUG79	7-062	SN. TURTL		815.0	8788.0	0.08	74.8	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
9	24AUG79	7-039	GR. HERON	A	472.0	225.0	0.04	24.6	<0.020	<0.020	<0.020	<0.010	0.034	0.034	0.124
9	24AUG79	7-043	GR. HERON	I	410.0	220.0	0.97	22.7	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
9	24AUG79	7-064	SN. TURTL		592.0	4309.0	<0.05	73.0	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
9	25AUG79	7-040	GR. HERON	A	420.0	725.0	0.11	24.4	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100
9	25AUG79	7-046	GR. HERON	A	460.0	230.0	0.48	24.8	<0.020	<0.020	<0.020	<0.010	<0.010	0.000	0.100

TASK 7 - DDT LEVELS OF SELECTED VERTEBRATES IN AND ADJACENT TO WHEELER, WILSON, AND GUNTERSVILLE RESERVOIRS

[illegible]

A. SITE:	1-APPROX.	TENN.	RIVER MILE 271,	HOG ISLAND
	2-APPROX.	TENN.	RIVER MILE 299,	ROUND ISLAND
	3-APPROX.	TENN.	RIVER MILE 309	
	4-APPROX.	TENN.	RIVER MILE 311,	LIMESTONE
	5-APPROX.	TENN.	RIVER MILE 317	
	6-APPROX.	TENN.	RIVER MILE 321	
	7-APPROX.	TENN.	RIVER MILE 321,	SPRING BRANCH
	8-APPROX.	TENN.	RIVER MILE 330,	ROCK SPRING
	9-APPROX.	TENN.	RIVER MILE 402,	CROW CREEK
B. AGE:	1-INTERMEDIATE			

C. MINIMUM TOTAL DOSTR CALCULATED BY SETTING ALL LESS THAN VALUES TO ZERO.
D. MAXIMUM TOTAL DOSTR CALCULATED BY SETTING ALL LESS THAN VALUES TO THEIR ABSOLUTE VALUE.
E. SAMPLES LABELED "UNK79" WERE COLLECTED IN AUGUST OR SEPTEMBER, 1979 BUT EXACT DATE UNKNOWN.
F. --ALL SAMPLES ANALYZED BY STEWART LABORATORIES, INC.

* -- INDICATES SAMPLE IS A MERGED VALUE (VALUE REPORTED IS THE AVERAGE OF TWO ANALYSES).

NOTE: These data showed poor interlaboratory agreement and are believed to be biased low (see Quality Assurance Section of this report).

APPENDIX VI

WORKTASK DESCRIPTIONS AND RESULTS FOR 3 WAR
WORKTASKS AND QUALITY ASSURANCE DOCUMENT

APPENDIX VI: WORKTASK DESCRIPTIONS AND RESULTS FOR 3 WAR
WORKTASKS AND QUALITY ASSURANCE DOCUMENT

TABLE OF CONTENTS

	<u>Page</u>
TASK 1: ENVIRONMENTAL ASSESSMENT OF UNNAMED CREEK SYSTEM A PRINCIPAL CANDIDATE FOR RECEIVING DIVERSION FLOW	
1.0 <u>PURPOSE</u>	VI-1
2.0 <u>SCOPE</u>	VI-1
3.0 <u>PROCEDURES</u>	VI-1
3.1 <u>TYPES OF SAMPLES</u>	VI-1
3.2 <u>STATION LOCATION</u>	VI-1
3.3 <u>FIELD COLLECTION</u>	VI-1
3.3.1 <u>Organism Collection</u>	VI-1
3.3.2 <u>Habitat Description</u>	VI-1
3.3.3 <u>Data Handling and Reporting</u>	VI-2
4.0 <u>SCHEDULE</u>	VI-2
TASK 2: VEGETATIVE MAPPING OF AREAS POTENTIALLY AFFECTED BY DREDGING OR DIVERSION ALTERNATIVES	
1.0 <u>PURPOSE</u>	VI-5
2.0 <u>SCOPE</u>	VI-5
3.0 <u>PROCEDURE</u>	VI-5
3.1 <u>LOCATION OF AREAS SURVEYED</u>	VI-6
3.2 <u>FIELD COLLECTION</u>	VI-6
3.3 <u>DATA HANDLING AND REPORTING</u>	VI-6
4.0 <u>SCHEDULE</u>	VI-6
TASK 3: WORKPLAN FOR DETERMINING DDT LEVELS IN THREE FISH SPECIES IN WHEELER RESERVOIR	
1.0 <u>PURPOSE</u>	VI-14
2.0 <u>SCOPE</u>	VI-14
3.0 <u>PROCEDURES</u>	VI-14
3.1 <u>SAMPLE LOCATIONS</u>	VI-14
3.2 <u>TYPES OF SAMPLES</u>	VI-14
3.3 <u>FIELD COLLECTION</u>	VI-14
3.4 <u>SAMPLE HANDLING</u>	VI-14
3.5 <u>ANALYTICAL METHODOLOGY</u>	VI-15
3.5.1 <u>Applicable Documents</u>	VI-15
3.5.2 <u>Summary of Method</u>	VI-15

APPENDIX VI: WORKTASK DESCRIPTIONS AND RESULTS FOR 3 WAR
WORKTASKS AND QUALITY ASSURANCE DOCUMENT

TABLE OF CONTENTS, Continued

	<u>Page</u>
QUALITY ASSURANCE FOR WATER AND AIR RESEARCH, INC. SUMMER 1980 FISH SAMPLING	VI-22
1.0 <u>OBJECTIVE</u>	VI-22
2.0 <u>SCOPE</u>	VI-22
3.0 <u>PROCEDURES AND METHODS</u>	VI-22
3.1 <u>SAMPLING AND SAMPLE HANDLING</u>	VI-22
3.2 <u>SELECTION OF SAMPLES FOR QUALITY CONTROL</u>	VI-22
3.3 <u>PROCEDURE FOR BLINDING SAMPLES</u>	VI-22
3.4 <u>STATISTICAL EVALUATION</u>	VI-22
4.0 <u>RESULTS</u>	VI-23
4.1 <u>COMPOSITE FISH ANALYSES</u>	VI-23
4.1.1 <u>WAR Blind Splits</u>	VI-23
4.1.2 <u>Between-Laboratory Splits</u>	VI-23
4.2 <u>INDIVIDUAL FISH ANALYSIS</u>	VI-23
4.2.1 <u>WAR Blind Splits</u>	VI-23
4.2.2 <u>Between-Laboratory Splits</u>	VI-23
5.0 <u>CONCLUSION</u>	VI-23

TASK 1
ENVIRONMENTAL ASSESSMENT OF UNNAMED CREEK SYSTEM
A PRINCIPAL CANDIDATE FOR RECEIVING DIVERSION FLOW

1.0 PURPOSE

To carry out an environmental inventory of Unnamed Creek entering Wheeler Reservoir at approximately TRM 332. This creek is a principal candidate for receiving the diversion flows from Huntsville Spring Branch. This creek system would have to be altered by increasing channel depth and width to handle stormwater runoff.

2.0 SCOPE

Unnamed Creek (UNC) was sampled in reaches near UNCM 0.5, UNCM 1.5, and UNCM 2.8 for benthic macroinvertebrates. Stream habitat was described for the entire reach to be disturbed by dredging. Adjacent upland vegetation was listed at the macroinvertebrate sampling stations.

3.0 PROCEDURES

3.1 TYPES OF SAMPLES

The stream communities sampled were limited to macroinvertebrates. No samples for fish or aquatic vascular plants were taken. The creek has been channelized in the past and presently represents poor stream habitat.

3.2 STATION LOCATION

Stations for organisms inhabiting the stream environment were UNCM 0.5, UNCM 1.5, and UNCM 2.8. The entire length of the potentially affected reach was examined to document stream habitat.

3.3 FIELD COLLECTION

3.3.1 Organism Collection

Benthic macroinvertebrates were collected in a transect across the stream channel at right bank, left bank, and midchannel. Three replicates each were taken by Petite Ponar grab samplers and composited at right bank, left bank, and midchannel. The number of samples at a transect were a three-replicate composite each for the right bank, left bank, and midchannel sections. Separations were done in the field using a U.S. Standard #30 mesh bucket sieve. Formalin was used to preserve the samples prior to final processing in the laboratory. Rose bengal dye was used as an organism stain to facilitate processing.

3.3.2 Habitat Description

1) Stream habitat was documented by surveying the stream reach to be altered by dredging, and terrestrial and aquatic vegetation was noted.

Substrate conditions were also noted.

2) Adjacent upland and floodplain habitats were surveyed, and appropriate herbarium specimens collected where necessary.

3.3.3 Data Handling and Reporting

All data were summarized into a tabular form. The data is discussed in Appendix II, Section 2.0.

4.0 SCHEDULE

The survey was completed in autumn during leaf drop. Field collections in the stream were conducted during non-flooding conditions.

Table VI-1 . Benthic Macroinvertebrates Collected in Unnamed Creek
October 22-26, 1979.

Taxonomic Classification	Organisms per square meter at mile		
	0.5	1.5	2.8
Annelida-Hirudinea			
Hirudinea	--	38	19
Annelida-Oligochaeta			
Aulophorus furcatus	--	19	--
Dero obtusa	--	38	48
Nais behningi	96	--	--
Nais variabilis	5	--	--
Tubificidae			
Branchiura sowerbyi	172	1954	1207
Ilyodrilus templetoni	--	1130	120
Limnodrilus hoffmeisteri	4521	6265	4943
Pelosclex multisetosus	--	--	57
Tubificidae	555	--	--
Miscellaneous Oligochaeta			
Lumbriculidae	--	10	--
Mollusca			
Gastropoda			
Corbicula manilensis	383	278	--
Physa sp.	--	19	--
Unidentified gastropoda	24	--	--
Bivalvia			
Sphaerium sp.	--	666	694
Arthropoda-Crustacea			
Asellus sp.	--	--	19

Table VI-1 . Benthic Macroinvertebrates Collected in Unnamed Creek
October 22-26, 1979. (Continued, Page 2)

Taxonomic Classification	Organisms per square meter at mile		
	0.5	1.5	2.8
Arthropoda-Insecta			
Chironomidae			
Chironomus sp.	6686	6207	115
Cladotanytarsus sp.	19	--	--
Cladopelma sp.	--	19	--
Clinotanytus sp.	--	--	211
Cricotopus sp.	77	19	--
Cryptochironomus fulvus	57	--	--
Cryptochironomus near blarina	48	19	--
Dicrotendipes neomodestus	43	57	86
Goeldichironomus holoprasinus	--	19	--
Micropsectra sp.	77	134	115
Polypedilum near illinoense	158	287	10
Procladius sp.	--	19	--
Pseudochironomus sp.	19	--	--
Tanytus carinatus	--	--	134
Tanytus neopunctipennis	--	--	67
Tanytarsus sp.	--	--	201
Thienemanniella sp.	57	--	--
Ephemeroptera			
Caenis sp.	--	--	57
Miscellaneous Insecta			
Ceratopogonidae (no larval key)	5	--	115
Chaoborus sp.	--	--	19
Corixidae	--	--	5
Epicordulia sp.	--	14	--
Perithemis sp.	--	--	5
Miscellaneous Invertebrates			
Dubiraphia sp.	62	19	--
Nematoda	--	38	326
TOTAL NUMBER OF ORGANISMS	13,064	17,271	8,573
NUMBER OF TAXA	19	21	21
SHANNON-WEAVER SPECIES DIVERSITY (BASE 2)	1.89	2.28	2.36

TASK 2
VEGETATIVE MAPPING OF AREAS POTENTIALLY AFFECTED
BY DREDGING OR DIVERSION ALTERNATIVES

1.0 PURPOSE

To prepare vegetative maps to delineate existing habitats potentially affected by the application of dredging or diversion alternatives.

2.0 SCOPE

Selected areas along Huntsville Spring Branch and Indian Creek were surveyed and existing plant communities were delineated. For this portion of the task the area where mapping was conducted has an upper boundary at Martin Road and extends along Huntsville Spring Branch and Indian Creek including their floodplains and the proposed diversion routes to Wheeler Reservoir. It is in this general area that the various dredging and diversion plans are being considered. Existing plant communities were inventoried so as to provide additional environmental input to potential alterations that will occur should implementation take place in this area.

The out-of-basin diversion plans direct flow from Huntsville Spring Branch at approximately HSBM 8 southeast along a corridor to Unnamed Creek, which enters Wheeler Reservoir at TRM 332. Vegetative mapping was also conducted in this area.

3.0 PROCEDURE

A detailed land use and vegetation map of the potentially affected areas was prepared. All major land uses and habitats were delineated. The mapping procedure was carried out in successive stages. Initial assessment was conducted through the use of appropriate aerial photography scaled 1 inch to 1000 feet.

Ground truthing was carried out by conducting transects on the habitats potentially affected. Transects were completed by using the "Wisconsin method" Curtis and McIntosh (1951) to estimate standing crop and to determine the dominant species. This method is computed as follows:

1. Relative density
of species A in =
$$\frac{\text{Stand density of species A in stand X}}{\text{Total stand density of all species in stand X}} \times 100$$

stand X
2. Relative dominance
of species A =
$$\frac{\text{Basal area of species A in stand X}}{\text{Total basal area of all species in stand X}} \times 100$$

in stand X

$$3. \text{ Relative frequency of species A in stand X} = \frac{\text{Frequency of species A in stand X}}{\text{Sum of frequencies for all species in stand X}} \times 100$$

$$\text{Frequency (used above)} = \frac{\text{Total number of plots or points in stand X in which species A occurs}}{\text{Total number of plots or points sampled}} \times 100$$

The maximum value for an importance index is 300 (100 + 100 + 100). Deviations from this value are due to "rounding" of various calculations.

3.1 LOCATION OF AREAS SURVEYED

The survey included floodplain and appropriate corridors potentially designated for dredging and diversion routes. This included part or all of the following:

T5S R1W Sections 4, 5, 6, 7, 8, 9, 16, 17, 18, 19, 20, 21, 24, 29, 30.

T5S R2W Sections 1, 2, 11, 12, 13, 14, 22, 23, 24.

The corridor from Huntsville Spring Branch southeast to Unnamed Creek included the following areas:

T4S R1W Sections 34, 35.

T5S R1W Sections 1, 2, 3.

T5S R1W Sections 2, 4, 12, 13.

3.2 FIELD COLLECTION

During the ground survey appropriate collections were made of plants for herbarium specimens. No plant species classified as rare, threatened or endangered were found.

3.3 DATA HANDLING AND REPORTING

All data were summarized in tabular form. A vegetation map for all potentially affected areas was constructed. The data is discussed in Appendix II, Section 2.0.

4.0 SCHEDULE

The survey was carried out during autumn, during leaf drop.

Table VI-2 Importance Values of Tree Species Occurring in Huntsville
Spring Branch and Indian Creek Floodplain Forests

Common Name	Scientific Name	Importance Value
Transect 1 *N = 53		
Red Maple	<u>Acer rubrum</u>	135.6
Green Ash	<u>Fraxinus pennsylvanica</u>	53.7
American Elm	<u>Ulmus americana</u>	35.1
Blue Beech	<u>Carpinus caroliniana</u>	31.0
Water Tupelo	<u>Nyssa aquatica</u>	25.6
Black Willow	<u>Salix nigra</u>	19.2
Transect 4 N = 285		
Green Ash	<u>Fraxinus pennsylvanica</u>	66.5
Blue Beech	<u>Carpinus caroliniana</u>	41.6
American Elm	<u>Ulmus americana</u>	39.6
Cherrybark Oak	<u>Quercus falcata</u> var. <u>pagodaefolia</u>	27.6
Sweetgum	<u>Liquidambar styraciflua</u>	21.9
Water Oak	<u>Quercus nigra</u>	21.8
Hackberry	<u>Celtis occidentalis</u>	20.8
Overcup Oak	<u>Quercus lyrata</u>	13.4
Willow Oak	<u>Quercus phellos</u>	11.8
Black Willow	<u>Salix nigra</u>	11.7
Honeylocust	<u>Gleditsia triacanthos</u>	8.6
Swamp Chestnut Oak	<u>Quercus micheauxii</u>	8.4
Redbud	<u>Cercis canadensis</u>	3.6
Transect 7 N = 111		
Green Ash	<u>Fraxinus pennsylvanica</u>	55.4
Hackberry	<u>Celtis occidentalis</u>	34.3
Willow Oak	<u>Quercus phellos</u>	33.6
Red Maple	<u>Acer rubrum</u>	31.7
American Elm	<u>Ulmus americana</u>	29.0
Blue Beech	<u>Carpinus caroliniana</u>	19.6
Black Willow	<u>Salix nigra</u>	18.1
Sweetgum	<u>Liquidambar styraciflua</u>	13.8
Water Oak	<u>Quercus nigra</u>	12.6
Overcup Oak	<u>Quercus lyrata</u>	12.6
Cherrybark Oak	<u>Quercus falcata</u> var. <u>pagodaefolia</u>	10.1
Sycamore	<u>Platanus occidentalis</u>	9.6
Winged Elm	<u>Ulmus alata</u>	6.0
American Basswood	<u>Tilia americana</u>	5.6
Hawthorn	<u>Crataegus</u> sp.	4.2
Pignut Hickory	<u>Carya glabra</u>	4.0

*N = Number of individuals counted.

Table VI-3 Importance Values of Tree Species Occurring in a Bottomland
Hardwood Swamp Forest Association on the Redstone Arsenal

Common Name	Scientific Name	Importance Value
<u>Transect 8 N = 87</u>		
Water Tupelo	<u>Nyssa aquatica</u>	170.6
Red Ash	<u>Fraxinus pennsylvanicus</u>	57.9
Red Maple	<u>Acer rubrum</u>	48.7
American Elm	<u>Ulmus americana</u>	22.9

Table VI-4 Importance Values of Tree Species Occurring in the Deciduous Hardwood Forest Association on the Redstone Arsenal

Common Name	Scientific Name	Importance Value
Transect 9 N = 176		
Blue Beech	<u>Carpinus caroliniana</u>	79.7
Cherrybark Oak	<u>Quercus falcata</u> var. <u>pagodaefolia</u>	53.1
Sweetgum	<u>Liquidambar styraciflua</u>	46.3
Red Maple	<u>Acer rubrum</u>	39.7
Willow Oak	<u>Quercus phellos</u>	22.9
American Elm	<u>Ulmus americana</u>	17.0
Blackgum	<u>Nyssa sylvatica</u>	10.5
Water Oak	<u>Quercus nigra</u>	10.2
Red Mulberry	<u>Morus rubra</u>	8.6
Red Oak	<u>Quercus coccinea</u>	6.6
Swamp Chestnut Oak	<u>Quercus michauxii</u>	6.4
Flowering Dogwood	<u>Cornus florida</u>	5.8
Persimmon	<u>Diospyros virginiana</u>	5.6

Table VI- 5 Importance Values of Tree Species Occurring in the Mixed Pine and Deciduous Hardwood Forest Association on the Redstone Arsenal

Common Name	Scientific Name	Importance Value
Transects 2 and 3 N = 72		
Loblolly Pine	<u>Pinus taeda</u>	85.5
American Elm	<u>Ulmus americana</u>	54.3
Red Maple	<u>Acer rubrum</u>	38.9
Sweetgum	<u>Liquidambar styraciflua</u>	27.3
Hackberry	<u>Celtis occidentalis</u>	21.1
Cherrybark Oak	<u>Quercus falcata</u> var. <u>pagodaefolia</u>	16.9
Blue Beech	<u>Carpinus caroliniana</u>	16.2
Redbud	<u>Cercis canadensis</u>	13.9
Honeylocust	<u>Gleditsia triacanthos</u>	9.5
Red Mulberry	<u>Morus rubra</u>	8.2
Pignut Hickory	<u>Carya glabra</u>	8.1

Table VI- 6 Vegetation at Unnamed Creek Mile 3.3

Aquatic Vegetation

<u>Lemna minor</u>	Duckweed
<u>Myriophyllum brasiliense</u>	Parrotfeather
<u>Myriophyllum spicatum</u>	Eurasian Watermilfoil
<u>Polygonum hydropiperoides</u>	Smartweed
<u>Ludwigia arcuata</u>	Ludwigia
<u>Zizaniopsis miliaceae</u>	Giant Cutgrass

Swale Spoil Bank Vegetation

<u>Setaria geniculata</u>	Foxtail Grass
<u>Poa sp.</u>	Grass
<u>Eragrostis sp.</u>	Lovegrass
<u>Erigeron sp.</u>	Fleabane Daisy
<u>Solidago sp.</u>	Goldenrod
<u>Eupatorium sp.</u>	Thoroughwort
<u>Phytolacca americana</u>	Pokeberry
<u>Rhus toxicodendron</u>	Poison Ivy
<u>Rubus sp.</u>	Blackberry
<u>Smilax bona-nox</u>	Greenbrier
<u>Gelsemium sempervirens</u>	Yellow Jessamine

Surrounding Forest Trees

<u>Liquidambar styraciflua</u>	Sweetgum
<u>Quercus phellos</u>	Willow Oak
<u>Quercus micheauxii</u>	Basket Oak
<u>Quercus lyrata</u>	Overcup Oak
<u>Fraxinus pennsylvanicus</u>	Green Ash
<u>Maclura pomifera</u>	Osage-Orange
<u>Celtis occidentalis</u>	Hackberry

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ENGINEERING AND ENVIRONMENTAL STUDY OF DDT
CONTAMINATION OF HUNTSVILLE SP. (U) WATER AND AIR
RESEARCH INC GAINESVILLE FL J. H. SULLIVAN ET AL. NOV 80
DACW01-79-C-0224

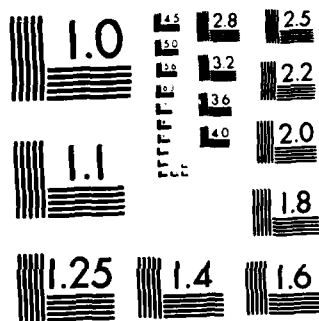
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Table VI- 7 Importance Values of the Tree Species Occurring in the Unnamed Creek Deciduous Forest Association on the Redstone Arsenal

Common Name	Scientific Name	Importance Value
<u>Transect 10 N = 132</u>		
Willow Oak	<u>Quercus phellos</u>	74.5
Green Ash	<u>Fraxinus pennsylvanica</u>	50.3
Hackberry	<u>Celtis occidentalis</u>	47.6
Overcup Oak	<u>Quercus lyrata</u>	44.1
Shagbark Hickory	<u>Carya ovata</u>	32.4
American Elm	<u>Ulmus americana</u>	26.6
Sweetgum	<u>Liquidambar styraciflua</u>	14.9
Persimmon	<u>Diospyros virginiana</u>	5.6

Table VI- 8 Vegetation at Unnamed Creek Miles 0.5 and 1.5

<u>Aquatic Vegetation</u>	
None	
<u>Ditch Spoil Bank Vegetation</u>	
<u>Uniola latifolia</u>	Grass
<u>Poa sp.</u>	Grass
<u>Erigeron sp.</u>	Lovegrass
<u>Solidago sp.</u>	Goldenrod
<u>Lespedeza sp.</u>	Lespedeza
<u>Cercis canadensis</u>	Redbud
<u>Smilax bona-nox</u>	Greenbrier
<u>Rhus toxicodendron</u>	Poison Ivy
<u>Rhus glabra</u>	Smooth Sumac
<u>Viola sp.</u>	Violet
<u>Rubus sp.</u>	Blackberry
<u>Lonicera japonica</u>	Honeysuckle
<u>Ipomea sp.</u>	Morning Glory
<u>Campsis radicans</u>	Trumpet-vine
<u>Berchemia scandens</u>	Rattan-vine
<u>Vitis rotundifolia</u>	Muscadine
<u>Ulmus americana</u>	American Elm
<u>Acer rubrum</u>	Red Maple
<u>Fraxinus pennsylvanicus</u>	Green Ash
<u>Prunus nigra</u>	Black Cherry
<u>Juniperus virginiana</u>	Red Cedar
<u>Quercus phellos</u>	Willow Oak
<u>Quercus lyrata</u>	Overcup Oak
<u>Salix nigra</u>	Black Willow

TASK 3
WORKPLAN FOR DETERMINING DDT LEVELS IN THREE FISH
SPECIES IN WHEELER RESERVOIR

1.0 PURPOSE

To define the level of DDTR* in three species in Wheeler Reservoir.

2.0 SCOPE

Fish samples were collected from Wheeler Reservoir including three tributaries.

3.0 PROCEDURES

3.1 SAMPLE LOCATIONS

See Appendix V, Task 1.

3.2 TYPES OF SAMPLES

Fish species to be sampled - 6 specimens of each species.

Commercial fish - channel catfish and smallmouth buffalo

Game fish - largemouth bass

3.3 FIELD COLLECTION

Six specimens of the following species: channel catfish, smallmouth buffalo, and largemouth bass were collected from the stations designated in Table VI-9. Gill nets and electrofishing gear were used to make the collections.

3.4 SAMPLE HANDLING

3.4.1 Each specimen collected was tagged, wrapped in aluminum foil, and placed on ice in the field. Samples were kept iced (1-3 days) until processed by the laboratory.

3.4.2 In the laboratory the fish were weighed and total length was determined. The fish were skinned and both fillets were removed and weighed. The fillets were cut into approximately 1/4 inch cubes, spread on foil, and frozen. The individually frozen cubes were stored frozen in glass containers with foil-lined lids. The remaining fish carcass was wrapped in foil and frozen.

*DDTR = DDT isomers and metabolites

3.4.3 Equal quantities of the diced fillets (usually 10 grams) from 6 fish at a sample location were blended in a Waring blender with dry ice to obtain the composite samples. The blended samples were stored in 1 oz. glass containers with teflon-lined caps.

3.4.4 Prior to analyses, samples were blinded by replacing existing labels with randomly distributed laboratory numbers. The identity of the individual samples was unknown to all Water and Air Research personnel until after analyses had been completed and results submitted.

3.4.5 Blind split samples were included in all groups of analyses.

3.5 ANALYTICAL METHODOLOGY

3.5.1 Applicable Documents

Pesticide Analytical Manual, Volume 1, Methods Which Detect Multiple Residues, Section 211.13f, U.S. Department of Health, Education, and Welfare, Food and Drug Administration, September 1972.

"Interim Methods for the Sampling and Analysis of Priority Pollutants in Sediments and Fish Tissues," (1978), U.S. Environmental Protection Agency, EMSL, Cincinnati, OH 45263.

3.5.2 Summary of Method

Approximately 8 grams of ground fish tissue is mixed with anhydrous Na_2SO_4 in a 1:4 ratio. This mixture is allowed to stand for 30 minutes before extraction. The sample is extracted serially 3 times with 100 ml portions of petroleum ether in a high-speed blender.

The combined organic phase is then filtered through additional anhydrous Na_2SO_4 with a Millipore filter funnel apparatus and collected in a Kuderna-Danish concentrator. The extract is concentrated to approximately 5 ml, transferred to a Florisil column, eluted with 6 percent ethyl ether in petroleum ether and concentrated again to approximately 5 ml. The final extract is adjusted to volume with iso-octane (usually 10 ml).

The extract is subsequently analyzed for DDT isomers and metabolites using a Perkin-Elmer Sigma 1 gas chromatograph and data system. A 1.84 m x 2.0 mm glass column packed with 1.5% OV-17 + 1.95% OV-210 on 100/120 Chromosorb W-HP is utilized.

Table VI-9. Summary of Fish Sample Collections

Stream	Location Mile	Channel Catfish	Largemouth Bass	Smallmouth Buffalo
TRM	275	X		
TRM	280	X		X
TRM	285	X	X	
TRM	290	X		X
TRM	295	X		
TRM	300	X		X
TRM	305	X		
TRM	310	X		X
TRM	315	X		
TRM	320	X		X
TRM	325	X		
TRM	330	X		X*
TRM	340	X		X*
TRM	345		X	
Spring Creek	1	X		
Limestone Creek	3	X		
Flint Creek	5	X		

*For SMB 2 fish from TRM 330 were combined with 4 fish from TRM 340 to make a single composite. These fish were also analyzed individually.

Table VI-10. Results of DDT Analyses on Composite and Individual Fish Samples Collected Summer 1980

LOC	ID#	SP	DAY	LT	WT	FWT	DDT		DDD		DOE		DDTR			
							O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	Min.	Avg.	Max.	
FCM	5	301	CC	6	25	42.5	732	168	0.23	0.21	0.23	4.9	0.45	4.4	10.	10.
	5	302	CC	6	25	44.0	795	199	0.25	0.29	0.67	7.2	1.1	6.4	16.	16.
	5	303	CC	6	25	41.5	547	175	0.25	0.54	1.3	12.	1.3	7.7	23.	23.
	5	304	CC	6	25	39.0	465	143	0.17	0.46	1.3	12.	1.4	5.8	21.	21.
	5	305	CC	6	25	50.5	1252	325	0.37	0.80	1.9	31.	2.2	14.	50.	50.
	5	306	CC	6	25	52.0	1255	411	0.97	1.5	10.	99.	4.8	34.	150.	150.
FCM	5	CC	Composite					1.3	1.4	4.0	22.	4.8	16.	50.	50.	
	3	121	CC	6	27	40.5	741	168	0.44	0.91	1.8	14.	1.6	9.0	28.	28.
	3	122	CC	6	27	48.0	1151	370	0.16	0.52	0.82	2.7	0.64	2.8	7.7	7.7
	3	123	CC	6	27	48.0	1186	352	0.26	0.29	<0.03	0.36	0.28	0.82	2.0	2.0
	3	124	CC	6	27	43.5	754	202	0.47	0.29	0.35	8.5	1.1	7.8	19.	19.
	3	125	CC	6	27	40.5	679	165	0.76	1.7	0.55	5.5	2.4	4.9	16.	16.
LCM	3	126	CC	6	27	47.5	985	325	0.10	0.54	0.12	1.6	0.60	2.4	5.4	5.4
	3	CC	Composite					1.3	1.9	0.42	4.2	1.3	4.4	14.	14.	
	1	115	CC	6	26	44.5	1133	260	0.13	0.35	0.05	0.90	0.22	0.96	2.6	2.6
	1	116	CC	6	26	46.0	1139	388	0.17	0.42	0.07	1.0	0.23	1.2	3.1	3.1
	1	117	CC	6	26	48.0	1186	391	0.32	0.48	0.08	1.0	0.38	1.2	3.5	3.5
	1	118	CC	6	26	45.0	984	330	0.36	0.41	0.14	3.8	0.80	3.6	9.1	9.1
SCM	1	119	CC	6	26	43.0	965	307	0.62	1.2	0.14	2.1	0.77	3.0	7.8	7.8
	1	120	CC	6	26	45.0	1084	308	0.27	0.45	0.11	0.14	0.37	1.5	4.1	4.1
	1	CC	Composite					0.99	0.89	0.30	1.2	0.52	1.9	5.8	5.8	
	275	307	CC	6	26	48.0	986	313	0.61	0.29	0.19	3.8	0.85	2.7	8.4	8.4
	275	308	CC	6	26	45.0	1023	241	1.3	0.54	0.35	5.8	1.5	5.4	15.	15.
	275	309	CC	6	26	49.0	1266	413	0.50	0.59	2.6	13.	1.7	7.1	25.	25.
TRM	275	310	CC	6	26	50.0	1086	308	0.26	0.17	0.06	2.2	0.27	2.6	5.6	5.6
	275	311	CC	6	26	46.0	1044	320	0.07	<0.03	0.43	2.2	0.54	1.3	4.5	4.5
	275	312	CC	6	26	52.0	1770	565	0.70	0.32	0.19	3.1	0.86	3.0	8.2	8.2
	275	CC	Composite					1.8	1.6	0.38	2.0	0.90	2.6	9.3	9.3	
	280	325	CC	6	26	48.0	1048	271	0.34	0.50	<0.03	2.4	0.41	2.4	6.0	6.0
	280	326	CC	6	26	51.0	1641	500	0.40	0.41	1.3	6.1	1.1	3.7	13.	13.
TRM	280	327	CC	6	26	48.5	1331	449	0.22	0.11	0.68	2.4	0.74	1.8	6.0	6.0
	280	328	CC	6	26	51.0	1728	515	0.30	0.62	0.56	2.9	0.60	1.6	6.6	6.6
	280	329	CC	6	26	44.0	917	218	0.04	<0.03	0.32	2.8	0.52	1.8	5.5	5.5
	280	330	CC	6	26	51.0	1398	425	0.38	0.52	0.42	4.7	0.63	4.4	11.	11.
	280	TPM	Composite					0.95	0.90	0.58	2.7	0.83	2.5	8.5	8.5	
	280	319	SMB	6	26	49.0	1763	402	0.25	0.36	0.07	1.5	0.54	1.8	4.5	4.5

Table VI-1Q Results of DDT Analyses on Composite and Individual Fish Samples Collected Summer 1980
(Continued, Page 2)

LOC	ID#	SP	DAY	LT	WT	FWT	DDT		DDD		DDE		DDTR		
							O,P'	P,P'	O,P'	P,P'	O,P'	P,P'	Min.	Avg.	Max.
TRM 280	320	SMB	6	26	46.0	1459	0.17	0.31	0.45	1.4	0.50	1.4	4.2	4.2	4.2
TRM 280	321	SMB	6	26	52.0	2303	0.24	0.16	0.07	0.62	0.26	1.7	3.0	3.0	3.0
TRM 280	322	SMB	6	26	46.0	1614	0.11	0.09	0.18	0.66	0.20	1.1	2.3	2.3	2.3
TRM 280	323	SMB	6	26	46.0	1444	0.16	0.20	0.31	0.88	0.21	0.78	2.5	2.5	2.5
TRM 280	324	SMB	6	26	48.0	2006	<0.23	0.52	0.64	2.2	0.78	2.5	6.6	6.8	6.9
TRM 280		SMB	6	Composite			0.80	1.2	0.48	1.2	0.70	2.0	6.4	6.4	6.4
TRM 285	103	CC	6	26	44.0	936	0.46	0.24	2.7	8.8	1.6	5.1	19.	19.	19.
TRM 285	104	CC	6	26	42.0	1058	0.43	0.44	0.64	2.7	0.60	2.4	7.2	7.2	7.2
TRM 285	105	CC	6	26	42.5	800	0.33	0.18	0.50	2.3	0.74	1.9	6.0	6.0	6.0
TRM 285	106	CC	6	26	45.5	1087	0.28	<0.03	0.86	4.8	0.99	3.2	10.	10.	10.
TRM 285	107	CC	6	26	48.0	1329	0.65	0.49	1.3	4.8	1.3	3.8	12.	12.	12.
TRM 285	108	CC	6	26	44.0	897	1.6	0.19	<0.03	<0.03	0.14	0.87	2.8	2.8	2.8
TRM 285		CC	6	Composite			2.2	2.2	1.1	3.9	1.6	4.1	15.	15.	15.
TRM 285	507	LMB	7	27	28.5	778	0.02	<0.02	0.02	0.23	0.04	0.16	0.47	0.48	0.49
TRM 285	508	LMB	7	27	26.0	532	<0.02	<0.02	<0.02	0.06	0.01	0.08	0.15	0.18	0.21
TRM 285	509	LMB	7	25	25.5	441	<0.02	<0.02	<0.02	0.07	0.11	0.13	0.31	0.34	0.37
TRM 285	510	LMB	7	25	25.0	544	<0.04	<0.04	<0.03	<0.03	<0.02	0.03	0.03	0.11	0.19
TRM 285	511	LMB	7	27	23.0	393	<0.03	<0.03	<0.03	<0.03	0.16	<0.01	0.16	0.22	0.29
TRM 285	512	LMB	7	25	28.0	733	0.03	0.04	<0.02	0.35	0.09	0.28	0.79	0.80	0.81
TRM 285		LMB	6	Composite			<0.05	<0.10	<0.03	0.09	0.07	0.13	0.29	0.38	0.47
TRM 290	85	CC	6	26	41.0	961	0.37	0.27	0.72	2.8	2.5	2.0	8.7	8.7	8.7
TRM 290	86	CC	6	26	44.0	886	0.93	0.94	1.7	9.1	1.9	7.0	22.	22.	22.
TRM 290	87	CC	6	26	42.0	678	1.3	0.49	<0.23	5.1	1.4	4.1	12.	13.	13.
TRM 290	88	CC	6	26	42.0	1011	0.18	0.05	0.42	1.4	0.45	1.0	3.5	3.5	3.5
TRM 290	89	CC	6	26	42.5	947	0.58	0.52	1.1	3.6	0.92	2.6	9.3	9.3	9.3
TRM 290	90	CC	6	26	44.0	989	1.3	1.5	0.98	8.3	2.1	6.9	21.	21.	21.
TRM 290		CC	6	Composite			2.2	1.4	1.2	4.2	2.0	4.2	15.	15.	15.
TRM 290	91	SMB	6	26	43.5	1291	0.04	<0.03	0.25	1.4	0.48	1.2	3.4	3.4	3.4
TRM 290	92	SMB	6	26	46.5	1186	0.58	0.82	0.99	3.9	1.2	5.1	13.	13.	13.
TRM 290	93	SMB	6	26	43.0	1293	0.07	<0.04	0.47	2.2	0.64	2.2	5.6	5.6	5.6
TRM 290	94	SMB	6	26	47.0	1709	0.74	1.1	0.38	3.2	1.3	5.1	12.	12.	12.
TRM 290	95	SMB	6	26	46.0	1425	1.2	2.4	0.96	5.8	1.8	8.5	21.	21.	21.
TRM 290	96	SMB	6	26	41.0	1176	0.23	<0.28	0.76	3.2	0.96	2.7	7.8	8.0	8.1
TRM 290		SMB	6	Composite			1.1	1.6	0.83	2.5	1.6	4.3	12.	12.	12.
TRM 295	43	CC	6	22	36.0	980	0.51	0.40	0.44	5.5	1.0	4.5	12.	12.	12.
TRM 295	68	CC	6	25	47.5	1176	0.32	0.24	0.44	2.5	0.76	1.7	6.0	6.0	6.0

Table VI-10. Results of DDT Analyses on Composite and Individual Fish Samples Collected Summer 1980
(Continued, Page 3)

LOC	ID#	SP	DAY	LT	WT	FWT	DDT		DDD		DDE		Min.	Avg.	Max.
							o.p.	p.p.	o.p.	p.p.	o.p.	p.p.			
TRM 295	69	CC	6	25	41.5	989	0.41	0.18	0.46	1.6	0.94	1.1	4.7	4.7	4.7
TRM 295	71	CC	6	25	49.5	1084	0.67	1.1	2.0	13.	5.9	8.1	31.	31.	31.
TRM 295	72	CC	6	25	46.0	1115	0.26	0.24	0.11	2.2	0.8	1.6	5.2	5.2	5.2
TRM 295	73	CC	6	25	46.5	724	0.97	0.54	0.99	14.	1.6	9.0	27.	27.	27.
TRM 295	44	CC	6	22	Composite		1.7	1.3	1.3	5.0	1.6	4.3	15.	15.	15.
TRM 300	46	CC	6	22	36.0	847	0.30	<0.26	0.92	9.9	1.6	4.9	18.	18.	18.
TRM 300	47	CC	6	22	37.0	876	0.65	0.32	<0.23	2.8	0.78	2.8	7.4	7.5	7.6
TRM 300	48	CC	6	22	35.0	844	0.56	0.58	<0.03	0.52	0.46	0.91	3.0	3.0	3.1
TRM 300	56	CC	6	22	36.0	908	0.83	0.58	0.55	5.6	1.1	4.5	13.	13.	13.
TRM 300	60	CC	6	25	48.0	1358	0.44	0.20	0.68	2.8	0.83	2.3	7.3	7.3	7.3
TRM 300	37	SMB	6	25	49.0	1019	0.59	0.96	0.97	5.2	1.5	5.9	15.	15.	15.
TRM 300	62	SMB	6	21	35.5	1300	1.4	0.84	0.53	2.6	1.0	2.7	9.1	9.1	9.1
TRM 300	63	SMB	6	25	46.0	1365	0.23	0.18	<0.02	0.24	0.16	0.52	1.3	1.3	1.4
TRM 300	64	SMB	6	25	45.0	1437	0.23	0.65	0.23	1.1	0.77	1.8	4.8	4.8	4.8
TRM 300	65	SMB	6	25	44.5	1460	0.33	0.25	0.18	1.4	0.45	2.5	5.1	5.1	5.1
TRM 300	67	SMB	6	25	49.0	1671	0.15	0.14	0.16	2.0	0.49	2.2	5.1	5.1	5.1
TRM 300	17	CC	6	25	47.5	1717	0.16	0.29	0.15	1.3	0.47	1.6	4.0	4.0	4.0
TRM 305	55	CC	6	20	35.0	613	0.17	0.58	<0.03	3.1	1.1	5.2	10.	10.	10.
TRM 305	80	CC	6	25	51.0	353	0.81	1.1	0.32	1.1	0.63	2.3	6.3	6.3	6.3
TRM 305	81	CC	6	25	42.5	909	0.47	<0.23	<0.23	6.6	1.0	4.1	12.	12.	13.
TRM 305	82	CC	6	25	38.0	886	0.65	0.86	1.6	10.	1.6	6.9	22.	22.	22.
TRM 305	83	CC	6	25	41.0	890	0.24	<0.23	0.94	4.7	0.79	3.5	10.	10.	10.
TRM 305	127	CC	6	25	47.0	1031	0.44	0.25	0.25	4.5	1.0	4.2	11.	11.	11.
TRM 310	128	CC	6	27	45.0	1083	0.48	0.72	1.2	7.2	1.3	5.8	17.	17.	17.
TRM 310	129	CC	6	27	45.0	886	0.17	0.34	0.43	4.5	0.64	3.6	9.7	9.7	9.7
TRM 310	130	CC	6	27	45.0	965	0.93	0.80	0.58	3.6	1.0	3.4	10.	10.	10.
TRM 310	131	CC	6	27	39.0	537	0.41	0.44	1.3	4.6	1.2	3.9	12.	12.	12.
TRM 310	132	CC	6	27	40.5	630	<0.03	<0.03	0.05	2.4	0.39	1.8	4.6	4.7	4.7
TRM 310	133	SMB	6	27	46.0	1486	0.41	<0.23	0.61	2.3	0.62	1.9	5.8	6.0	6.1
TRM 310							0.26	0.30	0.22	1.0	0.54	1.4	3.8	3.8	3.8
TRM 310							0.44	0.67	1.9	6.6	1.8	5.6	17.	17.	17.
TRM 310							0.28	0.43	1.3	4.8	1.1	4.1	12.	12.	12.
TRM 310							0.96	<0.38	1.0	2.8	1.2	3.1	9.1	9.2	9.4
TRM 310							0.08	0.06	0.03	0.32	0.11	0.76	1.4	1.4	1.4

Table VI-10. Results of DDT Analyses on Composite and Individual Fish Samples Collected Summer 1980
(Continued, Page 4)

LOC	ID#	SP	DAY	LT	WT	FWT	DDT		DDD		DDE		DDTR		
							O ₃ P ₁	P ₂ P ₁	O ₃ P ₁	P ₂ P ₁	O ₃ P ₁	P ₂ P ₁	Min.	Avg.	Max.
TRM 310	134	SMB	6	27	47.0	1743	338	0.31	0.62	0.32	1.7	0.59	2.6	6.1	6.1
TRM 310	135	SMB	6	27	48.5	2061	422	0.17	0.17	0.17	0.92	0.32	1.0	2.8	2.8
TRM 310	136	SMB	6	27	48.0	1707	375	0.40	0.25	<0.23	1.1	0.49	2.5	4.7	4.8
TRM 310	137	SMB	6	27	38.0	862	205	0.12	0.22	0.43	2.0	0.60	2.3	5.7	5.7
TRM 310	138	SMB	6	27	38.5	911	198	0.13	0.25	0.31	0.85	0.25	1.5	3.3	3.3
TRM 310		SMB		Composite				0.41	0.61	0.64	0.65	0.43	1.5	4.2	4.2
TRM 315	18	CC	6	20	29.5	476	170	0.09	<0.03	0.15	1.8	0.26	1.0	3.3	3.3
TRM 315	359	CC	6	28	42.0	743	253	0.24	0.05	0.13	1.6	0.48	1.2	3.7	3.7
TRM 315	360	CC	6	28	47.5	1128	343	0.30	0.34	0.80	4.2	0.82	3.4	9.9	9.9
TRM 315	361	CC	6	28	43.5	848	255	0.53	0.58	0.22	2.7	0.77	2.0	6.8	6.8
TRM 315	363	CC	6	28	47.5	1091	320	0.44	0.36	0.50	6.5	0.80	4.1	13.	13.
TRM 315	364	CC	6	28	43.5	715	214	0.33	0.39	0.50	4.4	0.72	2.5	8.8	8.8
TRM 315		CC		Composite				0.69	0.45	0.29	1.8	0.52	1.6	5.4	5.4
TRM 320	337	CC	6	28	47.5	983	317	0.88	0.65	7.7	27.	4.6	16.	57.	57.
TRM 320	338	CC	6	28	51.5	1251	436	1.5	1.9	8.3	45.	7.3	32.	96.	96.
TRM 320	339	CC	6	28	49.5	1255	392	3.4	6.0	15.	230.	19.	84.	360.	360.
TRM 320	340	CC	6	28	47.0	1152	378	1.7	1.7	17.	81.	7.0	22.	130.	130.
TRM 320	341	CC	6	28	47.5	1085	305	0.42	0.32	0.98	5.4	1.2	4.3	13.	13.
TRM 320	342	CC	6	28	47.0	1118	376	0.84	1.0	8.4	33.	3.8	14.	61.	61.
TRM 320		CC		Composite				4.4	6.4	12.	51.	12.	32.	118.	118.
TRM 320	13	SMB	6	19	36.0	1285	350	0.30	0.32	0.88	4.0	1.1	5.0	12.	12.
TRM 320	14	SMB	6	19	34.5	1178	282	0.57	0.86	3.7	14.	3.0	11.	33.	33.
TRM 320	331	SMB	6	28	44.5	1492	360	1.3	0.83	3.9	16.	5.1	21.	48.	48.
TRM 320	332	SMB	6	28	46.0	1524	368	0.26	0.29	0.50	3.0	0.93	5.4	10.	10.
TRM 320	333	SMB	6	28	46.0	1473	304	0.54	0.24	5.1	19.	4.0	15.	44.	44.
TRM 320	336	SMB	6	28	32.5	520	108	0.04	0.03	<0.02	0.13	0.07	0.15	0.42	0.43
TRM 320		SMB		Composite				1.4	1.5	2.4	6.8	2.7	9.7	24.	24.
TRM 325	343	CC	6	28	46.0	863	197	8.5	10.	120.	720.	49.	200.	1100.	1100.
TRM 325	344	CC	6	28	40.0	549	156	0.38	0.41	0.31	3.7	0.73	4.1	9.4	9.4
TRM 325	345	CC	6	28	43.5	810	269	0.12	0.50	<0.22	0.60	0.68	1.0	4.0	4.1
TRM 325	346	CC	6	28	46.5	908	250	0.70	0.32	<0.02	0.36	0.84	0.58	2.8	2.8
TRM 325	347	CC	6	28	43.0	804	255	0.19	0.07	<0.03	<0.03	0.35	0.10	0.71	0.74
TRM 325	348	CC	6	28	47.5	1179	363	0.56	0.55	1.3	5.7	1.3	4.3	14.	14.
TRM 325		CC		Composite				3.2	<3.8	14.	42.	12.	27.	98.	100.
TRM 330	10	CC	6	18	32.0	556	113	0.40	<0.26	1.4	13.	1.1	5.9	22.	22.
TRM 330	140	CC	6	28	40.5	659	171	1.9	0.99	<0.22	1.8	1.7	2.6	9.0	9.1
TRM 330	141	CC	6	28	51.5	1229	311	1.6	0.67	16.	84.	8.9	33.	140.	140.
TRM 330	143	CC	6	28	48.0	1050	316	0.70	0.31	0.18	0.90	0.46	1.6	4.2	4.2

Table VI-10. Results of DDT Analyses on Composite and Individual Fish Samples Collected Summer 1980
(Continued, Page 5)

LOC	ID#	SP	DAY	LT	WT	FWT	DDT		DDD		DDE		DDTR	
							o.p'	p.p'	o.p'	p.p'	o.p'	p.p'	Min.	Avg.
TRM 330	144	CC	6 28	47.	952	304	0.85	0.49	0.22	4.2	2.5	4.0	12.	12.
TRM 330	145	CC	6 28	41.	826	240	0.86	0.28	<0.02	0.23	0.23	0.38	2.0	2.0
TRM 330		CC	Composite				2.6	1.8	4.3	13.	3.7	9.1	34.	34.
TRM 330	139	SMB	6 28	33.5	599	140	<0.03	<0.03	<0.03	0.06	0.08	0.12	0.26	0.30
TRM 330	146	SMB	6 28	47.	1704	366	0.35	0.19	<0.02	0.08	0.22	0.34	1.2	1.2
TRM 340	147	SMB	6 28	32.5	525	1409	<0.02	0.14	0.05	0.27	0.08	0.44	0.98	0.99
TRM 340	148	SMB	6 28	38.	806	180	<0.02	<0.02	0.05	0.18	0.04	0.16	0.43	0.45
TRM 340	149	SMB	6 28	38.5	694	182	0.06	0.11	0.24	0.82	0.33	0.91	2.5	2.5
TRM 340	150	SMB	6 28	36.	643	147	<0.03	<0.03	<0.03	<0.03	0.15	0.04	0.19	0.25
*		SMB	Composite				0.21	0.16	0.09	0.22	0.16	0.05	0.89	0.89
TRM 340	151	CC	6 28	50.	1207	347	1.0	0.42	0.10	2.8	0.89	2.0	7.1	7.1
TRM 340	152	CC	6 28	45.	911	261	2.4	3.5	13.	120.	7.5	36.	180.	180.
TRM 340	153	CC	6 28	49.	1498	509	0.49	0.15	<0.02	0.23	0.31	0.33	1.5	1.5
TRM 340	154	CC	6 28	49.5	1496	479	0.42	0.20	0.07	0.46	0.50	0.72	2.4	2.4
TRM 340	155	CC	6 28	50.	1142	352	1.0	0.40	<0.23	1.1	0.50	1.2	4.2	4.4
TRM 340	156	CC	6 28	45.	879	250	1.2	0.60	<0.03	0.41	0.94	0.76	3.9	3.9
TRM 340		CC	Composite				2.6	1.9	2.4	9.4	2.5	5.6	24.	24.
TRM 345	500	LMB	7 21	26.5	514	127	<0.03	<0.03	<0.03	0.25	0.03	0.25	0.53	0.58
TRM 345	501	LMB	7 21	23.5	358	123	<0.03	<0.03	0.28	0.88	0.32	0.45	1.9	2.0
TRM 345	502	LMB	7 21	30.	856	300	<0.03	<0.03	0.11	1.2	0.22	0.66	2.2	2.2
TRM 345	503	LMB	7 21	29.	793	262	0.11	0.08	0.72	3.8	0.46	2.2	7.4	7.4
TRM 345	505	LMB	7 21	17.5	173	61	<0.03	<0.03	<0.02	<0.02	0.27	0.03	0.30	0.35
TRM 345	506	LMB	7 21	36.	1433	486	<0.03	0.04	0.95	0.87	0.12	0.71	1.9	1.9
TRM 345		LMB	Composite				0.13	0.12	0.22	0.77	0.18	0.71	2.1	2.1

NOTES: DDT Concentrations in $\mu\text{g/gm}$

LOC = Stream and mile point; FCM=Flint Creek Mile, LCM=Limestone Creek Mile, SCM=Spring Creek Mile,
TRM=Tennessee River Mile; ID# = Water and Air Research Identification Number; Sp = Species;
CC = Channel Catfish; SMB = Small Mouth Buffalo; LMB = Large Mouth Bass; DAY = Month and Date of
collection; LT = Total Length, cm; WT = Weight, grams; FWT = Fillet Weight.
* = Composite of SMB at TRM 330 and 340

QUALITY ASSURANCE FOR
WATER AND AIR RESEARCH, INC. SUMMER 1980 FISH SAMPLING

1.0 OBJECTIVE

The objective of this quality assurance program was to utilize procedures which would insure that final analytical data were truly valid and representative of the concentration profile for the media analyzed. Data from this program were used to assess and measure the precision and accuracy of analytical results obtained and to identify any segment of the total effort which may have been invalid.

2.0 SCOPE

This program covered the analysis of fish samples taken in June and July 1980 and analyzed by Water and Air Research, Inc. (WAR). Samples were analyzed for DDT isomers and metabolites. Other laboratories participating in the quality control effort included Stewart Laboratories, Inc. (SLI), Environmental Protection Agency (EPA) and Tennessee Valley Authority (TVA).

3.0 PROCEDURES AND METHODS

3.1 SAMPLING AND SAMPLE HANDLING

Sample collection and initial sample preparation was carried out by WAR. Multiple replicate ground fish tissue samples were placed in identical containers with appropriate sample identification.

3.2 SELECTION OF SAMPLES FOR QUALITY CONTROL

Selection of which samples (by location and species) to duplicate and split was made by U.S. Army Corps of Engineers (COE) in Mobile in consultation with WAR. Efforts were made to insure that the quality control program included the range of species and DDTR concentrations expected.

3.3 PROCEDURE FOR BLINDING SAMPLES

After the selection of samples for quality control had been made, personnel outside the WAR organization "blinded" all samples. All existing labels were removed from the sample bottles and they were relabeled using randomly assigned identification numbers. For the WAR samples, duplicates plus all remaining samples were so "blinded". For the laboratories receiving only selected split samples, they were randomly numbered also. The "key" to sample identification remained unknown to all laboratories until after final results had been submitted.

3.4 STATISTICAL EVALUATION

All quality control information was statistically analyzed to determine the within-laboratory variability and between-laboratory variability. Analysis of variance techniques were utilized. Additionally, less

rigorous relative error comparisons were made.

4.0 RESULTS

4.1 COMPOSITE FISH ANALYSES

Initially, analyses were performed on composite samples consisting of six individual fish. Twenty-four composite samples were analyzed. Of this total, 6 samples were submitted in duplicate to WAR and 4 samples were submitted in duplicate to SLI, EPA, and TVA.

4.1.1 WAR Blind Splits

The results of the six blind splits analyzed by WAR are shown in Table VI-11. Average relative error was 17.2 percent which is equivalent to an average ratio of the two analyses being 1.19.

4.1.2 Between-Laboratory Splits

The results of the between-laboratory splits are shown in Table VI-12. Analysis of variance showed that no systematic differences existed between laboratories, i.e. no laboratory got consistently higher or lower values. The log transform was used on all data as a normalizing technique.

4.2 INDIVIDUAL FISH ANALYSIS

After the composite analyses were completed, a decision was made to analyze all 144 fish individually. Of this total, 16 samples were submitted in duplicate to WAR and 8 samples were submitted in duplicate to EPA.

4.2.1 WAR Blind Splits

The results of the 16 blind split analyses are shown in Table VI-13. Average relative error was 15.1 percent which is equivalent to an average ratio of the two analyses being 1.16.

4.2.2 Between-Laboratory Splits

The results of the between-laboratory splits are shown in Table VI-14. Analysis of variance techniques showed that no systematic differences existed between the two laboratories. The log transform was used on all data as a normalizing technique. Using mean values for the eight samples duplicated within labs and split between labs, the relative error ranged from -29.1 to +24.3 percent and averaged -7.2 percent (WAR values higher than EPA). WAR values were higher for 5 pairs and EPA values higher for 3 pairs. The average relative error was not statistically significantly different from zero.

5.0 CONCLUSIONS

The results of the fish analyses conducted by WAR are valid. These results can be utilized, subject to appropriate recognition of the analytical variability as determined from the blind split analyses.

Table VI-11. Tabulation of WAR Quality Control Blind Split Data for Composite Fish Samples.

Replicate	DDT ($\mu\text{g/g}$)		DDD ($\mu\text{g/g}$)		DDE ($\mu\text{g/g}$)		Total DDTR ($\mu\text{g/g}$)
	o,p'	p,p'	o,p'	p,p'	o,p'	p,p'	
1a	0.76	0.75	0.32	3.1	0.96	3.1	9.0
1b	1.1	0.86	0.83	4.2	1.1	3.8	12.0
2a	5.1	4.4	10	43	11	27	100
2b	3.8	8.5	14	59	13	36	130
3a	2.2	1.3	2.3	8.8	2.2	5.1	22
3b	2.9	2.5	2.5	10	2.8	6.1	27
4a	0.32	0.64	0.97	0.61	0.44	1.5	4.5
4b	0.50	0.58	0.31	0.69	0.42	1.5	4.0
5a	1.3	1.2	0.45	2.2	0.92	2.4	8.4
5b	1.4	0.49	0.61	2.9	1.1	3.0	9.5
6a	1.5	1.5	2.5	6.6	2.6	9.6	24
6b	1.4	1.5	2.3	7.0	2.8	9.8	25

Table VI-12. Tabulation of Between-Lab Quality Control Data for Composite Fish Samples

Lab	Replicate	DDT ($\mu\text{g/g}$)		DDD ($\mu\text{g/g}$)		DDE ($\mu\text{g/g}$)		Total DDTR* ($\mu\text{g/g}$)		
		o,p'	p,p'	o,p'	p,p'	o,p'	p,p'	Min.	Ave.	Max.
WAR	1a	2.2	1.3	2.3	8.8	2.2	5.1		22	
WAR	1b	2.9	2.5	2.5	10	2.8	6.1		27	
EPA	1a	1.7	1.1	2.9	16	2.5	8.1		32	
EPA	1b	1.4	0.88	2.4	14	2.3	6.7		28	
SLI	1a	1.72	1.59	1.98	12.7	1.16	6.72		25.9	
SLI	1b	1.56	1.48	1.73	13.6	1.00	6.89		26.3	
TVA	1a	2.1	3.3	3.2	14.4	3.6	9.0		35.6	
TVA	1b	1.6	2.6	2.3	11.2	2.5	6.9		27.1	
WAR	2a	0.32	0.64	0.97	0.61	0.44	1.5		4.5	
WAR	2b	0.50	0.58	0.31	0.69	0.42	1.5		4.0	
EPA	2a	0.23	0.24	0.32	1.00	0.44	1.9		4.1	
EPA	2b	0.24	0.24	0.37	1.2	0.48	2.3		4.8	
SLI	2a	0.32	0.38	0.32	0.82	0.29	0.98		3.11	
SLI	2b	0.30	0.36	0.29	0.86	0.27	1.17		3.25	
TVA	2a	0.25	0.53	0.30	0.75	0.54	1.9		4.3	
TVA	2b	0.25	0.47	0.25	0.68	0.50	1.7		3.9	
WAR	3a	0.76	0.75	0.32	3.1	0.96	3.1		9.0	
WAR	3b	1.1	0.86	0.83	4.2	1.1	3.8		12	
EPA	3a	0.33	0.22	0.47	3.1	0.71	2.6		7.4	
EPA	3b	0.38	0.25	0.57	3.6	0.83	2.9		8.5	
SLI	3a	0.76	0.89	0.73	5.84	0.64	4.71		13.6	
SLI	3b	0.78	0.88	0.68	6.18	0.63	4.68		13.8	
TVA	3a	0.48	1.0	0.65	3.6	1.1	3.6		10.4	
TVA	3b	0.54	1.2	0.79	4.2	1.3	4.4		12.4	

Table VI-12. Tabulation of Between-Lab Quality Control Data for Composite Fish Samples (Continued, Page 2)

Lab	Replicate	DDT ($\mu\text{g/g}$)		DDD ($\mu\text{g/g}$)		DDE ($\mu\text{g/g}$)		Total DDTR* ($\mu\text{g/g}$)		
		o,p'	p,p'	o,p'	p,p'	o,p'	p,p'	Min.	Ave.	Max.
WAR	4a	5.1	4.4	10	43	11	27		100	
WAR	4b	3.8	8.5	14	59	13	36		130	
EPA	4a	4.2	4.0	21	100	20	59		210	
EPA	4b	1.8	1.7	9.0	40	7.2	22		82	
SLI	4a	4.59	5.21	12.9	40.4	6.69	23.2		93.0	
SLI	4b	3.96	4.77	12.0	37.2	6.28	21.3		85.5	
TVA	4a	2.1	<2.1	10.9	52.2	10.6	36.8	113	114	115
TVA	4b	1.4	<1.4	11.5	54.5	11.1	39.3	118	119	119

Abbreviations: WAR - Water and Air Research, Inc., Gainesville, FL
 EPA - Environmental Protection Agency, Athens, GA
 SLI - Stewart Laboratories, Inc., Knoxville, TN
 TVA - Tennessee Valley Authority, Chattanooga, TN

*Total DDTR values are calculated as the direct sum of the six isomers and metabolites. Min. total DDTR calculated by setting all "less than" values equal to zero. Average total DDTR calculated by setting all "less than" values equal to 1/2 of the detection limit. Max. total DDTR calculated by setting all "less than" values equal to the detection limit. Where no min. or max. figures are shown they are equal to the average value.

Table VI-13. Tabulation of WAR Quality Control Blind Split Data for Individual Fish.

Replicate	DDT ($\mu\text{g/g}$)		DDD ($\mu\text{g/g}$)		DDE ($\mu\text{g/g}$)		Total	DDTR* ($\mu\text{g/g}$)	
	o,p'	p,p'	o,p'	p,p'	o,p'	p,p'	Min.	Ave.	Max.
1a	0.21	0.59	0.78	2.5	0.58	2.7		7.4	
1b	0.12	0.45	0.86	2.9	0.69	3.0		8.0	
2a	0.70	0.38	0.20	3.0	0.95	2.8		8.0	
2b	0.70	0.26	0.18	3.2	0.78	3.2		8.3	
3a	0.30	0.14	0.69	2.8	0.54	1.5		6.0	
3b	0.30	1.1	0.44	3.0	0.67	1.7		7.2	
4a	0.30	0.28	0.46	1.7	3.9	1.5		8.1	
4b	0.44	0.26	0.98	3.9	1.1	2.6		9.3	
5a	0.43	<0.23	0.70	2.6	0.69	2.2	6.6	6.7	6.8
5b	0.45	0.39	0.66	2.9	0.97	2.4		7.8	
6a	0.67	1.6	1.1	4.1	1.3	6.6		15	
6b	0.51	0.31	0.84	6.2	1.7	5.2		15	
7a	0.62	0.27	0.19	0.20	0.49	1.6		3.4	
7b	0.78	0.35	0.17	1.6	0.43	1.5		4.8	
8a	0.28	0.45	0.26	1.1	0.74	1.6		4.4	
8b	0.25	0.15	0.17	1.0	0.35	1.2		3.1	
9a	0.32	<0.23	0.84	4.3	0.70	3.6	9.8	9.9	10
9b	0.29	0.69	0.75	4.1	0.94	3.3		10	
10a	1.6	2.4	8.6	46	7.6	32		98	
10b	1.4	1.4	8.0	44	7.0	31		93	
11a	0.03	<0.03	0.02	0.20	0.04	0.13	0.42	0.44	0.45
11b	0.02	<0.02	0.03	0.26	0.05	0.19	0.55	0.56	0.57
12a	<0.03	0.05	0.10	1.1	0.08	0.78	2.1	2.1	2.1
12b	<0.03	<0.03	0.09	0.84	0.15	0.64	1.7	1.8	1.8
13a	0.69	0.64	0.36	2.9	1.2	4.7		10	
13b	0.78	1.6	0.39	3.4	1.4	5.5		12	

Table VI-13. Tabulation of WAR Quality Control Blind Split Data for Individual Fish (Continued, Page 2)

Replicate	DDT ($\mu\text{g/g}$)		DDD ($\mu\text{g/g}$)		DDE ($\mu\text{g/g}$)		Total DDTR* ($\mu\text{g/g}$)		
	o,p'	p,p'	o,p'	p,p'	o,p'	p,p'	Min.	Ave.	Max.
14a	0.20	0.13	0.15	0.85	0.35	1.0		2.7	
14b	0.14	0.21	0.19	0.99	0.30	1.1		2.9	
15a	0.27	0.22	0.80	3.4	0.92	4.4		10	
15b	0.33	0.42	0.96	4.6	1.3	5.5		13	
16a	0.36	0.24	<0.02	0.09	0.23	0.40	1.3	1.3	1.3
16b	0.34	0.14	<0.03	0.07	0.20	0.29	1.0	1.1	1.1

* Total DDTR values are calculated as the direct sum of the six isomers and metabolites. Minimum total DDTR calculated by setting all "less than" values equal to zero. Average total DDTR calculated by setting all "less than" values equal to 1/2 of the detection limit. Max. total DDTR calculated by setting all "less than" values equal to the detection limit. Where no min. or max. figures are shown they are equal to the average value.

Table VI-14. Tabulation of Between-Lab Quality Control Data for Individual Fish.

Lab	Replicate	DDT ($\mu\text{g/g}$)		DDD ($\mu\text{g/g}$)		DDE ($\mu\text{g/g}$)		Total DDTR* ($\mu\text{g/g}$)		
		o,p'	p,p'	o,p'	p,p'	o,p'	p,p'	Min.	Ave.	Max.
WAR	1a	0.70	0.38	0.20	3.0	0.95	2.8		8.6	
WAR	1b	0.70	0.26	0.18	3.2	0.78	3.2		8.3	
EPA	1a	1.8	<0.7	0.61	3.0	1.3	4.3	11.0	11.4	11.7
EPA	1b	1.2	<0.7	0.58	2.9	1.1	3.3	9.1	9.4	9.8
WAR	2a	0.30	0.28	0.46	1.7	3.9	1.5		8.1	
WAR	2b	0.44	0.26	0.98	3.9	1.1	2.6		9.3	
EPA	2a	0.77	<0.7	1.2	3.3	1.1	2.6	9.0	9.3	9.7
EPA	2b	0.68	<0.6	1.1	2.4	1.0	2.2	7.4	7.7	8.0
WAR	3a	0.62	0.27	0.19	0.20	0.49	1.6		3.4	
WAR	3b	0.78	0.35	0.17	1.6	0.43	1.5		4.8	
EPA	3a	0.69	<0.6	0.37	1.2	0.36	0.98	3.6	3.9	4.2
EPA	3b	0.68	<0.5	0.38	1.5	0.43	1.6	4.6	4.8	5.1
WAR	4a	0.32	<0.23	0.84	4.3	0.7	3.6	9.8	9.9	10
WAR	4b	0.29	0.69	0.75	4.1	0.94	3.3		10	
EPA	4a	0.48	0.58	0.69	2.6	0.75	2.5		7.6	
EPA	4b	0.42	0.47	0.75	2.9	0.78	3.0		8.3	
WAR	5a	1.6	2.4	8.6	46	7.6	32		98	
WAR	5b	1.4	1.4	8.0	44	7.0	31		93	
EPA	5a	2.8	<3	8.1	29	9.0	28	77	78	80
EPA	5b	2.1	<3	7.5	29	8.1	27	74	75	77
WAR	6a	<0.03	0.05	0.10	1.1	0.08	0.78	2.1	2.1	2.1
WAR	6b	<0.03	<0.03	0.09	0.84	0.15	0.64	1.7	1.8	1.8
EPA	6a	0.039	<0.1	0.094	0.59	0.095	0.52	1.3	1.4	1.4
EPA	6b	0.041	0.096	0.099	0.60	0.097	0.58		1.52	
WAR	7a	0.27	0.22	0.80	3.4	0.92	4.4		10	
WAR	7b	0.33	0.42	0.96	4.6	1.3	5.5		13	
EPA	7a	0.44	<0.4	1.0	3.2	1.3	4.9	10.8	11.0	11.2
EPA	7b	0.56	<0.4	1.1	4.1	1.4	4.9	12.1	12.3	12.5

Table VI- 14. Tabulation of Between-Lab Quality Control Data for Individual Fish. (Continued, Page 2)

Lab	Replicate	DDT ($\mu\text{g/g}$)		DDD ($\mu\text{g/g}$)		DDE ($\mu\text{g/g}$)		Total DDTR*($\mu\text{g/g}$)		
		o,p'	p,p'	o,p'	p,p'	o,p'	p,p'	Min.	Ave.	Max.
WAR	8a	0.36	0.24	<0.02	0.09	0.23	0.40	1.3	1.3	1.3
WAR	8b	0.34	0.14	<0.03	0.07	0.20	0.29	1.0	1.1	1.1
EPA	8a	0.32	<0.4	<0.08	0.068	0.12	0.37	0.9	1.1	1.4
EPA	8b	0.29	<0.3	<0.07	0.062	0.10	0.34	0.8	1.0	1.2

Abbreviations: WAR - Water and Air Research, Inc., Gainesville, FL.
EPA - Environmental Protection Agency, Athens, GA.

* Total DDTR values are calculated as the direct sum of the six isomers and metabolites. Min. total DDTR calculated by setting all "less than" values equal to zero. Average total DDTR calculated by setting all "less than" values equal to 1/2 of the detection limit. Maximum total DDTR calculated by setting all "less than" values equal to the detection limit. Where no min. or max. figures are shown they are equal to the average value.

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